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COMMUNICATIONS.

RECORD OF ONE TERM OF SERVICE IN THE SURGICAL WARDS OF THE GERMAN HOSPITAL OF PHILADELPHIA.

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ONE OF THE SURGEONS TO THE HOSPITAL.

I desire to place on record, in as brief and concise a manner as possible, the most important of a series of cases treated by me during a term of service at the German Hospital, extending from the first of February to the middle of May, 1888. I do this because many of the cases are in themselves interesting and instructive, but especially with the wish of bringing before the profession through the columns of this journal the varied and extensive character of the surgical service in this hospital. I shall classify the cases rudely and confine myself to the most salient points, avoiding detail.

MODIFIED PIROGOFF AMPUTATION. P. D., 11 years old, while riding on the platform of a passenger train was thrown off, and fell with his left foot under the wheels, sustaining a severe crushing injury of all the anterior portion of the foot, which necessitated amputation. As the tissues of the heel had escaped injury, I performed a Pirogoff operation omitting, however, the section of the lower end of the tibia and fibula, and placing the sawn surface of the os calcis in contact with the articular surface of the tibia, the former bone fitting closely between the external and internal malleoli. Cat-gut drainage was used through the posterior angles of the wound, and a small rub-

ber drainage tube laid across its anterior portion. On the evening of the third day the temperature reached 101.5° . The stump was dressed and found in good condition. There had been but moderate oozing, and no retention of discharge. Next morning the temperature was normal, and so remained. Two weeks later the stump was again dressed, the drainage tube removed and the dressing reapplied. At this time there was slight motion of the os calcis upon the tibia, but the position was perfect. The stump was carefully dressed and, the sutures having been removed, it was allowed to remain without further inspection for three weeks, consolidation in such cases taking place more slowly than when two sawn surfaces are applied to each other. On removing the dressing at the end of this time the bones were found perfectly united, but the os calcis had a slight angle with the bones of the leg. Measurements on each side from the anterior superior spinous process to the lower surface of the heel were precisely the same, and the little patient could walk without pain and almost without a limp. The union was so firm and the practical results so good that I made no attempt to straighten the angle which I have mentioned.

This case illustrates the excellent results which can be obtained by the modified Pirogoff operation when it is possible to insert the piece of calcaneum in the lower flap between the malleoli, the latter giving admirable support and preventing displacement either inward or outward. The opening of a second extensive surface of cancellated tissue—at the lower end of the tibia—is thus avoided, and this is worthy of consideration, though not of so much impor-

tance now as in the days when antiseptics were unheard of. The case also illustrates, however, one of the minor disadvantages of infrequent dressings. The slight motion which existed, at the time of the second dressing, permitted subsequent displacement; this remained unnoticed during the long period that elapsed before the next dressing, as it was not sufficiently marked to be observed through the bandages. The use of a splint would have made displacement impossible, and I shall either change the dressings oftener in my next case or employ a felt splint moulded to the posterior surface of the stump and ankle.

RESECTION OF ANKLE. R. D., 25 years old, while working in the Pencoyd Iron Works, sustained a compound luxation of the ankle joint, produced by a heavy bar of iron falling upon his foot. The internal malleolus was fractured on a level with the articulating surface of the tibia; the fibula was fractured two inches from the lower extremity; the soft parts were widely torn, and several inches of the tibia protruded from the wound. The vessels, with the exception of the dorsalis pedis, were intact, and the anterior portion of the foot in good condition. I enlarged the opening through which the tibia protruded and removed the internal malleolus, together with the lower extremity of the tibia. The lower fragment of the fibula was removed through a curved incision parallel with the posterior border of the external malleolus. I then with a Hey's saw removed the upper surface of the astragalus, brought it up firmly against the lower end of the tibia, placed two small rubber drainage tubes in position, one behind and one in front of the line of the union of the bones, brought the external wound together with silver sutures and put the whole foot and leg in a plaster-of-Paris dressing, leaving fenestra for the discharges to escape. In five weeks union was perfect with the exception of a small patch of granulations from the inner angle of the wound. The highest temperature was reached on the evening of the seventh day, when it touched 101° . At this time the first dressing took place; subsequently the temperature continued to be absolutely normal.

In cases of which this is an illustration, the plaster-of-Paris splint is most admirable for the absolute fixation and immobility which it affords. When, however, on account of the soaking of the discharge it becomes necessary to remove the splint, it

is very difficult to do so without considerable disturbance of the part. This, after excisions, is very objectionable, and I shall feel disposed at my next operation of the character just described to depend either upon the silicate dressing, which is more easily cut, or upon felt splints moulded to the limb.

AMPUTATION AT THE LOWER THIRD OF THE LEG. This was done in two cases, both of crushing injury received upon the railroad, one in a boy 10 years old, the other in a woman 60 years old. Both patients recovered without elevation of temperature, the highest in either case being 100.8° , and that on only one occasion.

AMPUTATION OF FIRST, SECOND, AND THIRD METACARPAL BONES AND THEIR CORRESPONDING FINGERS. This case was one of crushing injury of the hand from compression under the shaft of an engine. With a little difficulty, enough of the soft parts were preserved to make flaps for the thumb and little finger, leaving a "lobster hand" which, however, proved to be very useful. There were only three dressings; no elevation of temperature.

AMPUTATION AT THE WRIST JOINT. In this case the entire hand was crushed between the bumpers of cars. The amputation was done at the wrist-joint, the styloid processes of the ulna and radius being retained. Union took place by first intention with only four dressings; there was no elevation of temperature. The stump was a useful and symmetrical one, and the amount of pronation and supination retained somewhat remarkable. Unless the styloid processes interfere with the application of an artificial hand (and I see no reason why they should), it would seem useless to remove them in this amputation, although the usual advice is to do so.

AMPUTATION OF THE ARM. In a case of railroad injury crushing the fore-arm, elbow, and lower arm, I amputated at the upper third by the musculo-cutaneous flap method. The soft parts were brought together in layers, the biceps and the brachialis anticus being first stitched to the triceps and then the skin brought together over the muscles by a separate row of sutures. I preserved some doubtful tissue in my desire to avoid going to the shoulder joint in this case, and as the result there was slight sloughing of the skin flaps, the temperature rising on one occasion to 103° . With that exception there was no complication, and the patient recovered promptly with a symmetrical and useful stump.

ABDOMINAL SECTION. *Case I.*—Miss E. L., 38 years old, with a family history of tuberculosis, was well until she was 20 years of age when she met with an accident producing a severe contusion of the left ovarian region. This was followed by great tenderness, which persisted for a long period. Menstruation became very scanty, irregular, and exceedingly painful. Two years ago, after an acute exacerbation of the ovarian symptoms, there was a sudden and copious discharge of pus from the vagina, followed by temporary relief. Since then she has had symptoms of pelvic cellulitis, accompanied with pain in the right ovarian region, tenderness, and frequent discharge of pus. Oöphorectomy was performed May 8, and five weeks later she expressed herself as freer from pain than she had been for years. Recovery was rapid and interrupted only by the formation of a small stitch-abscess requiring evacuation. This kept the temperature for a few days in the neighborhood of 100°; during the rest of the time it was normal.

Case II.—Mrs. E. B., 34 years old, presented herself with a large abdominal swelling, which had begun about one year before. It first appeared on the left side, afterward extending to the right; the pain in the early stages was extremely severe but decreased as the tumor enlarged. The diagnosis of pregnancy was persisted in by a local physician up to the time of her admission to the hospital. I performed abdominal section on April 10, removing a multilocular cyst of the left ovary, which weighed, with its contents, about twenty pounds. As there was a small fibroid growth of the uterus, and as she had not yet reached her menopause, I removed the uterine appendages on the right side also. The second day after the operation her temperature reached 100.5°; with that exception it remained normal. There was but one dressing; she was kept in bed for three weeks as a matter of precaution, and was discharged as cured.

Case III.—Mrs. S., 45 years old. She had a family history of cancer and tubercule. She had married when 16 years old, had nine children—twins once and triplets once, and had had four abortions. There was a laceration both of the cervix uteri and of the perineum. The patient had suffered much from dysmenorrhœa and menorrhagia, had had gout affecting the great toes in 1882, and later in the year an attack of right-sided hemiplegia, from which she slowly recovered. For some time past her chief difficulty had been from profuse and uncontrollable

menorrhagia, accompanied with great pelvic and ovarian pain. Oöphorectomy was performed April 23; the patient recovered without a complication and left the hospital free from all symptoms.

Case IV.—Mrs. B., was admitted Feb. 3 with a large abdominal swelling, which had been twice tapped in the median line for what the physicians in attendance pronounced a multilocular ovarian cyst. An examination under ether rendered this diagnosis exceedingly doubtful in my opinion and in that of some of my colleagues. I determined, however, with their approval, to operate partly for the sake of exploration and partly to furnish drainage for the intraperitoneal exudation. It was found on opening the belly, that the case was one of encysted peritonitis. During the operation a second large cyst, not opened by the original incision, broke down under my finger and discharged a large quantity of turbid fluid.

A glass drainage tube was used, the peritoneal cavity irrigated with a warm boracic acid solution, and the wound sewed up. She did well for four or five days, but then died suddenly from a rapid extension of the peritonitis.

HERNIOTOMY—RADICAL CURE. *Case I.*—G. B., a farmer 49 years old, was admitted March 27 with a large swelling which occupied the right half of the scrotum; it was pear-shaped in form and was divided about mid-way between the fundus or base of the swelling and the line of Poupart's ligament by a transverse groove. The diagnosis of complete oblique inguinal hernia constricted in the sac was made without difficulty, the symptoms—constipation, vomiting, etc., all pointing unmistakably in this direction. Herniotomy was performed, in regard to which the following interesting points may be noted.

1. The strangulation was in the sac itself, was due to the contraction of bands of lymph, and was exceedingly tight, so that with safety to the closely adherent bowel it was impossible to get the tip of a director beneath it. It was divided from without inward with delicate touches of the knife. As a consequence of the position of the constriction, the bowel contained in the upper half of the swelling—the part occupying the canal and the region of the external ring, was considerably swollen, reversing the usual shape of hernial swellings in having the larger portion above. The rings and canal were found largely stretched, and at these points the bowel was perfectly free.

In the neighborhood of the contraction there were numerous adhesions between the bowel and the sac.

2. The knuckles of gut below the constriction were found to be black, cold, offensive in odor, and crepitating when handled. It did not seem possible at first sight that they could recover themselves, but a half-hour's delay, during which time they were allowed to rest upon the upper surface of the thigh covered with hot carbolized towels, so improved their condition in every respect that it was deemed safe to return them to the abdomen.

3. The sac contained an exceedingly large quantity of fluid. Within the sac was found a body about the size of the last joint of the thumb, glandular in structure and with a fleshy rounded cord running up from it through the inguinal canal. This cord contained a hard wire-like body which slipped from between the fingers when handled. At first the fluid was thought to be that of a hydrocele and the glandular body to be an atrophied testicle with the accompanying spermatic cord and vas deferens. In other words, it was thought that the hernia was of the congenital variety. A little further investigation, however, revealed both testicles *in situ*, and a more careful examination showed that the gland was one of the mesenteric group; the supposed vas deferens proved to be an enlarged hardened lymphatic vessel, and the fleshy mass surrounding it a portion of omentum which had been much altered through its long sojourn outside of the abdomen. The hernia had been irreducible for years.

4. After the removal of this piece of omentum and ligation of the neck of the sac, the sac itself was excised. The fundus of the sac, which was tightly adherent to all the scrotal tissues, was left in place. The different layers of the abdominal wall on each side of the wound were first stitched together with cat-gut, and then the two broad fleshy walls thus obtained were united by silver sutures, cat-gut drainage being used. The lower third of the wound was left open and was packed with strips of iodoform gauze. The patient recovered; only a few drops of pus formed, the temperature was normal after the second day, only three dressings were necessary, and the hernia was cured (?). Three months later there had been no return.

Case II.—T. B., a man 19 years old, was admitted May 5 with a strangulated hernia of the right side, complicated with a retained testicle. The hernia was of the congenital

variety, attacks of strangulation were frequent, and the presence of the testicle in the canal rendered the use of a truss almost impossible. The testicle was found atrophied, and was therefore removed. The sac was ligated and excised and the wound treated as in the case just described with the exception that as the whole sac was removed no portion of the wound was left open. Union occurred by first intention—no fever, no pus. Apparent cure two months after the operation.

CONCUSSION OF THE BRAIN—CEREBRAL LOCALIZATION. J. Mc., a man 45 years old, a laborer, was admitted May 3, in a semi-unconscious condition; there was a history of his having fallen sixteen or eighteen feet from a tree, striking upon his head. There was a slight ecchymosis in the left temporal region.

A horse-shoe shaped flap of the scalp was raised for exploratory purposes. No depression or other evidence of fracture of the skull could be detected, and the flap was replaced. The patient had at that time all the characteristic symptoms of concussion of the brain, together with complete aphasia. When disturbed, he moved all his limbs in the effort to return to the position which he preferred, which was that characteristic of cases of concussion—a lateral decubitus with the legs flexed on the thighs, and the thighs on the abdomen. In about forty-eight hours it was observed that his right leg became motionless and helpless, and in the course of two days more he ceased to use his right upper extremity and no voluntary movement in it could be elicited. I then thought the case was one of rupture of one of the smaller posterior branches of the middle meningeal artery, either from fracture of the internal table, or from the direct result of the injury. The symptoms pointed to a slowly forming clot, creeping upward along the Rolandic line and involving successively the centres for speech, for the lower limb, and for the upper limb. I called a consultation of my colleagues for the following day with the intention of trephining. By the time we met, however, he had begun again to move the right arm and it was decided to wait and watch developments. In a day or two more movement returned in the right leg and before the end of the week he for the first time answered questions and spoke now and then spontaneously. He steadily improved in all respects passing, however, through a period of dementia, during which time he was filthy in his personal habits and occasionally destructive, breaking up his

furniture in order to obtain pieces of wood to chew, etc. After recovering sufficiently to be of use about the hospital, he absconded, though still in a condition of feeble intellect.

COMPRESSION OF THE BRAIN; CEREBRAL LOCALIZATION. A. B., a man about 60 years of age, was admitted in the afternoon of March 14, having also fallen from a tree, striking upon the side of the head. He was unconscious, with all of the symptoms of compression of the brain. There was a scalp wound, which, upon being slightly enlarged led down to sound bone. It was situated behind the parietal protuberance. The only paralysis which was noticeable was facial. As it was clearly a case for trephining, or at least for exploring the skull with that object in view, and as the existing scalp wound threw no light upon the condition, I carefully mapped out upon the scalp the area indicated by the facial palsy and punctured the scalp with a bistoury to indicate the precise point at which I expected to find the brain lesion. A large flap was then raised, and within one-eighth of an inch of my puncture was found a splintered fracture of the skull, with laceration of the brain substance. After beginning the removal of the fragments, the fracture was found to have extended through the inner table in the whole temporal region. The meningeal artery had been wounded and required ligature; the line of fracture extended to the floor of the middle cerebral fossa, but the only point at which brain substance had been actually wounded was at the locality mentioned. The patient never recovered consciousness, but died within a few hours of shock.

SHOULDER-JOINT AMPUTATION. A. B., 28 years old, was run over by a train which crushed his entire right arm to within a few inches of the shoulder. The hemorrhage had been great, and on his admission he was severely shocked and almost bloodless, showing very little disposition to react. I decided, however, to give him the chance and performed a shoulder-joint amputation, keeping him alive while so-doing by elevation of the extremities, dropping the head over the edge of the bed and using hypodermics of ether, whiskey, and digitalis, and of hot saline solutions. He appeared to react very well for an hour or two, and then died suddenly of heart failure. I have regretted since that I did not transfuse directly into a vein, employing either blood, or a saline solution; I shall certainly do so in the next similar case I have.

EXCISION OF THE KNEE; DOG BONE PEG USED. S. C., 22 years old, with a family and personal history of tuberculosis, was admitted to the hospital on May 18, for chronic arthritis of the knee-joint. As immobilization produced no favorable change I performed excision some weeks later, removing a section of the tibia and femur and carefully scraping out the carious cavities which I found in both bones. In bringing them together I used as a bond of union the metacarpal bone of a dog. This had been freshly removed with all antiseptic precautions. It answered very well mechanically, keeping the bones in excellent position; but it was, so far as I could see, of no other special advantage. (This case is reported in detail with remarks on the general principles of bony union, in the *Lancet*, August 18, 1888.)

BULLET WOUND. E. D., 23 years old, was admitted March 28 with a bullet wound situated just to the left of the symphysis pubis. After a little search the ball was found to have taken an upward direction and to have lodged in the scrotal tissues just below and in front of the bulbous portion of the urethra. It was extracted by a dissection which bi-sectioned the lower portion of the scrotum. The urethra was not opened. Cat-gut drainage was used and recovery was uninterrupted.

TRANSVERSE FRACTURE OF THE PATELLA. THE ASEPTIC USE OF MALGAIGNE'S HOOKS. E. H., 30 years old, fell while getting on a train which was in motion, and in the attempt to save himself sustained a transverse fracture of the patella, through muscular action. It was immediately followed by great swelling of the joint and entire disability. A few hours later, with the most careful antiseptic precautions the joint was aspirated, several ounces of bloody fluid being removed; I then brought the bones together from a separation of more than three inches, using Malgaigne's hooks and passing them directly through the soft parts. Irrigation with bichloride was kept up during the operation and the knee was dressed antiseptically, the hooks being included in the dressings. There was no elevation of temperature, and but two dressings in five weeks. At the end of that time the hooks were removed, the line of apparent union between the fragments being scarcely perceptible. The vertical diameter of the patella was the same in both limbs. A posterior splint with the figure-of-eight bandage was applied, and the patient cautioned against undue movement. He, however, kicked around freely in bed and some-

what displaced his dressings, and a few days later I found a separation of the fragments to the extent of perhaps three-eighths of an inch. He was again placed on a posterior splint with a firm figure of eight bandage. He recovered with good fibrous union, and no further separation of the fragments.

VESICAL CALCULUS; SECONDARY PYONEPHROSIS. J. P., 30 years old, was admitted April 3 with a history of longstanding vesical calculus. This history was easily confirmed on examination, when I found that the stone was probably of extremely large size, and therefore decided upon the suprapubic operation, to which the patient consented. He was extremely weak and had a profuse dysenteric diarrhoea. The night before the day fixed for the operation, he suddenly died and the autopsy, which I conducted the following afternoon, showed a condition of the kidney which made it marvelous that he had lived so long. The entire secreting structure had disappeared and the organs were transformed into multilocular sacs containing enormous quantities of muco-pus. The ureters were dilated to almost the calibre of the small intestine. The bladder contained a calculus weighing 532 grains. The origin of this dilatation of the ureters and kidney in such cases is of great interest, as no appreciable obstacle to the entrance of urine into the bladder is usually discoverable. It seems probable that in some instances the dilatation is brought about by the frequent contraction of the walls of the bladder, each act of this character temporarily interrupting the flow of urine through the vesical end of the ureter. This, taken in conjunction with the extension of inflammation from the bladder by continuity, probably explains the condition. An operation would have been certainly fatal, and I was thankful to have escaped the additional risk of death during the use of ether. The urine was so loaded with vesical *débris* that the condition of the kidney could not be accurately determined in advance of the operation.

EXOSTOSIS OF HUMERUS. F. R., 12 years old, had an extensive exostosis of the left humerus, at the point of insertion of the pectoralis major and growing quite rapidly. It was entirely removed through an incision parallel with the bone, bone forceps and a chisel being employed. He recovered promptly.

PSOAS ABSCESS. F. S., 48 years old, was admitted April 20, with the following history. He had never been seriously ill until 1884, when he had an attack of malarial fever

which confined him to a hospital for seven weeks. About a year ago he noticed a slight pain on the left side of the pelvis, and about the sacro-iliac juncture. This gradually increased, so that he was unable to perform his work. Last August he first noticed a swelling in the upper portion of Scarpa's triangle. This markedly increased until, when he came to the hospital, it occupied almost that entire region. The swelling was soft, fluctuating, and without *bruit*; there was a slight apparent pulsation, but it was not centrifugal and was merely the upheaval of the mass produced by the femoral artery lying beneath it. As the man was totally disabled and was rapidly losing strength and flesh I evacuated the abscess with full Listerian precautions. It contained an enormous quantity of pus, between one and two gallons, and continued for a short time to discharge freely. It was dressed daily and contracted rapidly, it being necessary at each dressing to shorten the drainage tube. When I last saw him he seemed almost entirely recovered.

RUPTURE OF BLADDER AND URETHRA. W. B., 38 years old, while coupling cars on the Reading railroad was caught laterally between the bumpers, the pressure being applied about equally on both sides from the trochanters to the crest of the ilium. He was admitted May 7, complaining of great pain over the right horizontal ramus of the pubis, at which point crepitus could be felt distinctly. He had moderate symptoms of shock. On catheterization a small quantity of bloody urine was obtained. The following day the abdomen became somewhat distended, but the urine gradually became clearer and the bladder more tolerant of it, until at the end of the fifth day the patient passed spontaneously from four to six ounces of perfectly clear urine. His temperature being then in the neighborhood of 100° and his belly flat and painless, I hoped that the source of the blood had been an unimportant rupture of the urethra. Catheterization was stopped and the patient kept on general supporting treatment. He however gradually developed septic symptoms, and two or three days later, upon the appearance of oedema of the lower portion of the abdomen and the upper part of the thighs, I dissected down and opened the cavity of the pelvis just above the ramus of the pubis, finding it filled with pus and with rapidly disintegrating sloughs of the sub-peritoneal connective tissue. Drainage and irrigation were employed, but without avail; the man died on the 17th, ten days after the

injury. The autopsy showed a rent in the bladder wall, and another not very extensive one in the membranous urethra. That in the bladder showed an attempt at union of the edges, and it would seem possible that some such union by adhesive inflammation took place early in the case, at about the time the blood disappeared from the urine and the bladder became retentive. Undoubtedly, however, some pelvic extravasation had occurred before this time, but the absence of any general or local phenomena pointing to it was truly remarkable. A continuance of the abdominal distention, high temperature and scanty urine would have led to an exploratory operation; but the subsidence of all these symptoms seemed to make an operation unjustifiable, although it was carefully discussed.

LYMPHADENOMA WITH A HISTORY OF HERNIA. B. S., 61 years old, was admitted with the history of the sudden appearance of a tumor just below the line of her left groin, and accompanied with local pain, constipation, vomiting and mild shock. The tumor, she insisted, was precisely similar to one from which she had suffered some years before, and which, she said, the doctor who attended her had caused to disappear by handling. In this history she persisted in spite of careful cross-questioning. The tumor was about half the size of the fist, situated over the saphenous opening, tense and apparently exquisitely tender, so that she could not bear to have it palpated. It was dull on percussion and had no impulse on coughing. She was etherized, when it was found that the tumor was distinctly lobulated. A diagnosis of lymphadenoma was made, though it was thought possible, in view of the history, that there might be a small femoral hernia strangulated in the canal. The growth was cut down upon and removed, but I found there was no trace of a hernial protrusion of any sort. The case is interesting on account of the conflict between the history and the actual condition.

HEMORRHOIDS. In a case of extensive hemorrhoids in a woman 60 years old, the old operation of ligation was performed. The tumors were left protruding and were dusted daily with iodoform, which is, in my opinion, the antiseptic for all operations about the anus. The patient was entirely well in less than two weeks, in spite of her age and of the extensive size of the piles. There was no fever and no development of unpleasant odor after the operation.

EPITHELIOMA. In a case of extensive epithelioma of the lower lip a large portion of the lip and of the soft tissues from the front of the chin was removed. It was found that there was in addition considerable disease of the alveolar process of the inferior maxilla, and I therefore, at the same time, extracted the right lateral incisors, the canines, and the bicuspid, and removed one-half the lower jaw, leaving its lower edge to preserve the contour. There was almost no fever, except for a few hours when a slight erysipelous blush, the result of tension, made its appearance. The patient was discharged cured in about two weeks.

In addition to these cases, most of which were operative, I may summarize briefly the history of others which came under my care during the three months term of service, many of which were no less interesting. There were ten cases of compound fracture of various bones; in eight of these the highest temperature reached was 100°. In the other two there were other injuries, extensive contusions and subsequent cellulitis, which ran the temperature up for a few days. They all recovered, and all with useful limbs. Of other fractures I may note that in eleven cases of fracture of one or both bones of the leg the average time of stay in the hospital was not more than five weeks. The remaining fractures were simple ones, and included six of the femur, several of the ribs, two of the pelvis (one of which recovered), and numbers of the arm, forearm, and other bones. There were twelve cases of burns and scalds, some of them very extensive. All recovered except one, a woman 60 years old, who died of delirium tremens. Of miscellaneous and unclassifiable cases—contusions, luxations, lacerated wounds, minor abscesses, ulcers, idiopathic erysipelas, urethral stricture, and inflammation, carbuncle, chilblains, necroses, cystitis, sprains, syphilis—there were in the neighborhood of 60 cases, which were worthy of record but which can not be condensed or abstracted without too greatly increasing the length of this paper, the chief object of which will be attained if it serves to call attention to the excellent and extensive charitable work which is being done by the President and Board of Managers of the German Hospital.

1810 South Rittenhouse Square.

—Dr. Roland G. Curtin has been elected Attending Physician, and Dr. W. A. Cochran Superintendent of the Presbyterian Hospital, Philadelphia.

VALUE OF EXTERNAL EXAMINATION IN OBSTETRIC PRACTICE.¹

BY CHARLES P. NOBLE, M.D.,
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The subject of external examination in obstetrics is not so fully appreciated in this country as abroad, especially not when contrasted with France and Austro-Germany. It is not so much the lack of appreciation, in theory, of the importance of external examination which characterizes our country, as the failure to apply in practice this valuable procedure. Being impressed with the utility of external examination as an aid to diagnosis, prognosis and therapeutics in obstetric practice, by my experience and observation in the Philadelphia Lying-in Charity and in private practice, I have chosen this as the subject of the paper I have the honor to read before you to-night.

Abdominal palpation was first described by Mercurius Scipio² in 1601, and then by Dionis, Roederer, Smellie and Baudelocque; little importance, however, was attached to it until 1813, when Wigand insisted upon its value and formulated rules for its practice. He failed, however, to impress his views upon the profession. After his time, the method was described, among others, by Velpeau and Chailly, and independently discovered by Hubert; but it remained for Mattei, about the year 1855, to demonstrate its value, not only in the diagnosis of pregnancy, but also for the diagnosis of the presentation and position of the fœtus, and for the purpose of performing version by external manipulation. Tarnier, and his pupils Pinard, Chantreuil and Budin, have succeeded in popularizing this method of exploration.

Auscultation is more generally used in obstetric practice than palpation, owing to the less skill that the former requires. The pulsations of the foetal heart were first discovered by Mayer in 1818. The discovery was accidental—Mayer was listening for sounds supposed to be caused by the foetal movements.³ He did not appreciate the full importance of his discovery. In 1821, Lejumeau de Kergardec, ignorant of Mayer's discovery, accidentally rediscovered the foetal heart-tones by auscultation, while

endeavoring to listen to sounds produced by the liquor amnii. He presented a memoir on the subject to the Paris Academy in 1821. The ideas of this observer, at first opposed, were soon disseminated throughout Europe; and were defended, among others, by Dubois, Velpeau and Jacquemier. In 1839, Depaul applied auscultation to the diagnosis of foetal presentations and positions, and after that time all obstetricians adopted it.¹

As a measure of diagnosis during pregnancy, abdominal palpation not only enables us to establish the fact of pregnancy, but also its duration, the presentation and position of the fœtus, the number of foetuses present, the life or death of the fœtus, and besides, certain complications of pregnancy such as fibroid tumors of the uterus, ovarian tumors, pelvic exostoses, etc.² It will be impossible to give more than a partial presentation of this interesting subject. Aside from the value of abdominal palpation to the obstetrician as a method of diagnosis in ordinary cases of pregnancy—in the knowledge which it affords him of the probability of a normal or a difficult labor, and as the only practicable method of improving his *tactus*—it, together with auscultation, is of the greatest importance in those not uncommon cases of pregnancy in supposed virgins, in which the more usual methods of diagnosis by vaginal examination cannot be employed, owing either to the refractoriness of the patient, or to the hesitancy of the physician to propose such an examination without the strongest reasons therefor. Suspected disease of one of the abdominal viscera is a sufficient excuse for proposing an examination of the abdomen.

The diagnosis of pregnancy, when advanced

¹ Charpentier, *op. cit.*, vol. i, p. 273.

² As showing what may positively or probably be determined by abdominal palpation, I quote from my notes on the lectures of Dr. L. E. Neale, Demonstrator of Obstetrics in the University of Maryland. Points to be determined by abdominal palpation before labor:

I. 1. If the woman be pregnant; 2, the month; 3, primipara or multipara; 4, one or more foetus; 5, if pregnancy be accompanied by any abnormal condition; 6, presence or absence of extra-uterine pregnancy, with or without normal pregnancy; 7, foetus alive or dead; 8, situation of foetus (a) presentation, (b) position; 9, mechanical obstacles to delivery; 10, placenta previa.

During labor. II. 1, if labor has begun; 2, if the pains be true or false; 3, if the pains be regular or irregular; 4, the stage of labor.

After labor. III. 1, The size, shape, consistency, mobility and sensibility of the uterus; 2, presence of clots in the uterus; 3, presence of tumors; 4, condition of the uterine adnexa (whether sensitive, inflamed, or not); 5, tympanites.

¹ Arranged from a paper read before the Northern Medical Association, Sept. 26, 1888.

² Charpentier, *Encyclopedia of Obstetrics and Gynecology*, vol. i, p. 265.

³ Jaggard, *American System of Obstetrics*, vol. i, p. 374.

beyond the fourth month, can usually be determined readily by abdominal palpation. During the early months the most important diagnostic points are: the central position of the tumor; its consistency; and most of all, the fact that at more or less regular intervals the consistency of the tumor alters markedly—instead of being doughy and compressible it becomes hard, and its contour is more readily determined. The observation (the knowledge of which we owe to Braxton Hicks) of the latter phenomenon, which continues throughout pregnancy, practically settles the diagnosis. Pinard,¹ perhaps the greatest authority on obstetric palpation, considers this sign as not positive, but only probable, of pregnancy; but since he only urges two conditions with which it may be confounded—the contractions of a greatly distended bladder, and of a subperitoneal uterine myo-fibroma—these contractions of the uterus may be accepted as practically a positive sign of pregnancy. By the use of the catheter, or in exceptional cases of distended bladder from retro-versio uteri gravidi, of the aspirator, the diagnosis of distended bladder may be positively established. The probability of mistaking a subperitoneal myo-fibroma for a pregnant uterus is so slight as to merit attention only as a remote possibility; certainly, the observation of the rhythmic contractions of the uterus is a more certain sign of pregnancy than ballottement, which is universally admitted as a positive sign. Among other conditions, aside from pregnancy, which have actually given the sensation of ballottement, may be mentioned:² a multilocular cystoma of the ovary (Pajot); a small ovarian cyst with a long pedicle; the non-pregnant anteverted uterus (Cazeaux); the pregnant womb itself, floating in ascitic fluid (Robert Barnes); a wandering kidney; and a calculus resting on the *bas-fond* of the bladder (Cazeaux). Pinard might have urged another condition—which would likely be confounded with normal pregnancy—tubal pregnancy, going on to term without rupture of the tube. Hæmatometra has also been mentioned as a possible source of error in diagnosis.

About the middle of pregnancy, in addition to the signs mentioned, abdominal ballottement can be obtained. Either the whole foetus, or simply the head

can be ballotted. Even before this time the active foetal movements may be felt, as was first shown by Pajot¹; and by the aid of auscultation they may be perceived after the third month. This sign, of course, not only establishes the fact of pregnancy but also the life of the foetus. During the last half of pregnancy the foetus can be made out, and usually its exact situation, without difficulty.

Auscultation affords great assistance in the diagnosis of pregnancy. The recognition of the uterine souffle was formerly regarded as a positive evidence of pregnancy; but it is now known that similar sounds can at times be heard over uterine fibroids and ovarian tumors. The recognition of the foetal heart-tones, however, is positive evidence both of pregnancy and of the life of the foetus. The sounds of the foetal heart are heard, according to Depaul, after the third month; most authors, however, say after the fourth month. Charpentier² states that he has never heard them before the middle of the fourth month, but that after that time he has always found them, provided the foetus was living. Depaul in 906 cases, examined during the last three months of pregnancy, failed to find the foetal heart sounds in but 8 cases; and Anderson, of Glasgow, in 180 cases failed to find them in but 12 cases, and in these cases the children were still-born. The theory of Frankenhäuser, that the sex of the foetus can be determined by the frequency of the cardiac pulsations, has not been generally accepted. According to Hecker and Schroeder, the foetal souffle is heard in from 14 to 15 per cent. of all cases. The foetal souffle is a single or double blowing murmur, isochronous with the foetal heart beats. Its discoverer, Evory Kennedy, regarded it as due to mechanical interference with the circulation in the cord. Various other explanations have been given of its occurrence; it is known to be due at times to disease of the foetal heart, as hypertrophy of the right ventricle, with insufficiency of the tricuspid and mitral valves, with vegetations on them. Its recognition cannot be considered of much practical moment, nor is this easy. In the course of my investigations I have never observed it. The active foetal movements can be recognized not only by palpation but also, and much earlier, by auscultation. Pajot in particular has studied this subject. At the end of the third

¹ Pinard. *Treatise on Abdominal Palpation*, p. 8.

² Jaggard. *American System Obstetrics*, p. 373, vol. 1.

¹ Pinard. *Op. cit.*, p. 10.

² Charpentier, *loc. cit.*, vol. i, p. 276.

month a bruit is produced comparable to the sound caused by the tapping of the finger against a tense membrane. This sound is caused by the total displacement of the foetus. Toward the end of gestation the sound is caused by movements of the extremities. If the stethoscope or ear be applied over the uterus, during active foetal movements, both the delicate bruit and the sense of shock caused by the impact of the foetus or its extremities against the uterine wall, can be heard and felt. The recognition of the foetal movements by the skilled observer is positive evidence of pregnancy and of the life of the foetus, and is a valuable aid to diagnosis in the fourth month.

The value of palpation in establishing the diagnosis of the presentation and position of the foetus can scarcely be overestimated. It has been urged that before labor the presentation of the foetus is a matter of little importance, and that during labor vaginal touch affords all necessary information. This argument is certainly fallacious. It might perhaps be a matter of little importance what part of the foetus offered at the superior strait during pregnancy, if pregnancy was not to be terminated by labor; and again, if all presentations of the foetus were normal, and labor equally easy and safe in each of them, it might not matter that the accoucheur possessed no knowledge of the relation between the foetus and its mother except that obtained by vaginal examination at his first visit after the advent of labor. But these conditions do not hold. It is generally recognized that vaginal examination during pregnancy to discover the presentation and position of the foetus, and the relation of the diameters and circumference of the presenting part of the foetus to those of the pelvis, except under unusual conditions, is impracticable. The same is not true of external examination. Besides, more exact and greater information can be obtained during pregnancy by external than by internal examination. Of course neither method of examination is to be employed to the exclusion of the other. The knowledge obtained by each method is complementary to that obtained by the other. Fortunately, however, such complete information is usually obtained by external examination as to render internal examination unnecessary during pregnancy. In a given case, with the presentation and position of the foetus, and the capacity of the pelvis made out during the eighth or ninth calendar month, the obstetrician occupies a very different position from what

he would were these facts unknown to him. Should nothing abnormal be discovered he has the assurance that no serious mechanical obstacle to delivery will be encountered during labor. Should abnormality of the foetus, of its presentation, or of the maternal pelvis be discovered, he is forewarned, and is enabled to institute the proper obstetric treatment at the proper time—whether this be version, the induction of premature labor, or other obstetric procedure.

Auscultation is of special use in diagnosing the presentations and positions of the foetus *in utero*, as first pointed out by De Kergaradec. According to Depaul the foetal heart is so situated as to be nearer the cephalic than the pelvic extremity, and since the attitude of the foetus is that of anterior flexion, the heart-sounds are most easily transmitted to the ear through the back. The point of maximum intensity will be over the foetal dorsal region, corresponding to the foetal pericardium. If the foetus be presenting by the vertex, this point will be below a horizontal line dividing the uterus in two equal parts: the umbilicus cannot serve as an accurate landmark owing to its variable position. In pelvic presentations, on the other hand, the foetal heart will be heard with greatest intensity above this line—in the upper part of the uterus. While the conclusions of Depaul are nearly universally admitted,¹ a part of his premises have been shown by Ribemont to be incorrect. This observer has shown by means of frozen sections that the foetal heart is about equidistant from the poles of the foetal ovoid; and that the explanation of the fact that the foetal heart is heard most distinctly below the horizontal line in vertex presentations, is found in the engagement of the head, which occurs before labor in this presentation but in no other. This theory is undoubtedly correct, and amply explains the fact that, in those cases of vertex presentation in which lack of relation between the size of head and the capacity of the pelvis prevent engagement before labor, the foetal heart-sounds are heard most distinctly at or near the horizontal line. In this way, presentations of the vertex or breech are distinguished. According as the heart is heard most distinctly to the right or left of the linea alba, the position is right or left. Auscultation is of doubtful value in the diagnosis of face

¹ Tarnier and Chantreuil have stated that in cases of placenta previa, deformed pelvis, large foetal head, or other condition which prevents the head from engaging, the foetal heart may be heard above the horizontal line.

and shoulder presentations. By combining it with palpation, however, the diagnosis can be made. But since face presentations are rare during labor, and infinitely more rare during pregnancy, the method is of theoretical rather than of practical value in these cases. The same rules apply to the diagnosis of the presentation and positions during labor by auscultation, except that as the presenting part sinks down in the pelvis, the foetal heart is heard at a correspondingly lower point.

During labor, abdominal palpation affords valuable information, and that, too, without entailing any danger upon the patient. Modern investigation has shown the danger of conveying sepsis to the patient by frequent "touching," unless the strictest antiseptic measures are employed; and even when this is done frequent touching is to be deprecated. I by no means accept the teaching of some, as Credé, that abdominal palpation alone shall be employed during labor, except under peculiar circumstances; but I do believe that vaginal examination is abused at the present time. When the presenting part is "high up," palpation affords much more accurate information than internal examination, which under these circumstances gives notoriously incomplete and unsatisfactory results. It is not my purpose to discuss this question from the medico-legal aspect—a reference to the recent discussions upon this point before the Chicago Gynecological and Medico-Legal Societies being sufficient to indicate the drift of professional opinion at this time. In ordinary labors, then, palpation should be employed because sometimes it yields the same, sometimes greater information than vaginal examination; and in all cases the information gained by touch is supplemented, confirmed, or corrected by that obtained from external examination. In long tedious labors, by inspection and palpation alone can we determine the state of the uterus, and especially its lower segment—important matters in such labors, affording an indication for artificial delivery, or, when this has been neglected, giving a warning of approaching rupture of the uterus.

Auscultation, moreover, should not be neglected during labor, though the information it affords relates rather to the foetus than the mother. In this way alone can we derive reliable information concerning the condition of the foetus. Kilian, in 1849, formulated what is sometimes called the "stethoscopical indication for forceps deliv-

ery." When the foetal cardiac pulsations increase in number to 180 per minute, or diminish to 100 or less; and when at the same time they lose their purity of tone; when distinct intermissions occur, or when only one sound can be distinctly heard—the life of the foetus is seriously threatened, and forceps delivery is indicated. This usually occurs in tedious labors, especially during the second stage, and is brought about by the prolonged compression to which the foetal head and trunk are subjected. In deciding the question, when to conclude a tedious labor artificially, the condition of the foetus as well as of the mother should be considered. I have seen the suggestion that the foetal mortality, in labor, is somewhat increased by the efforts of obstetricians to delay labor during the stage of perineal distention, in order to preserve the integrity of this structure. This suggestion deserves consideration, and the condition of the foetus, as indicated by the character and frequency of the heart-sounds, should be determined before effort is made to lengthen this period of labor.

Palpation after labor is so generally practiced, and its value as affording accurate information concerning the uterus and adnexa and the abdominal viscera so thoroughly appreciated, that a brief *résumé* of a few of its most important applications must suffice. Immediately after labor, palpation gives information of the tone of the uterus, and the hand resting gently on the abdomen over the uterus readily appreciates any alteration in the consistency of that organ. The practice of allowing the hand to rest gently over the uterus, for some time after labor, cannot be too strongly commended. In no other way can post-partum hemorrhage be so surely prevented; because relaxation of the uterus is immediately appreciated and measures to secure its contraction can be taken at once. Gentle friction of the uterus, during the natural contractions, assists in expelling clots and preventing after-pains.

Daily palpation of the abdomen during the first days of the puerperium should never be neglected. The condition of the uterus and adnexa can thus be known from day to day. The information gained in this way is scarcely less valuable, in indicating the progress of the case, than that afforded by the observation of the pulse and temperature. In a normal puerperal case the uterus during the first three or four days is found in the hypogastrium, well contracted, and not sensitive to pressure. After the third or fourth

day it rapidly diminishes in size, so that at the end of a week or ten days it is scarcely palpable from the abdomen. The adnexa during this time, are not painful on pressure. By daily palpation any deviation from this course is at once discovered. The process of involution is markedly influenced by intercurrent diseases, especially by septic or putrid infection. Indeed, the beginning of septicæmia or putrid infection is indicated by the large, relaxed, sensitive uterus, almost as soon as by the increased bodily heat, or rapidity of the pulse. This is especially true when the uterus is the site of absorption. It should be mentioned, also, that palpation offers the surest means of differentiating between after-pains of spasmodic character—perhaps induced by ergotism—and those caused by a relaxed state of the uterus, which favors passive hemorrhage and the retention of clots. The indications for treatment in the two classes of cases being radically different, a correct differentiation is essential for satisfactory therapeutics.

A practical matter, while not strictly apposite, may be mentioned here. It is the physician's duty to see that the nurse follows his directions, especially with reference to the cleanliness of the patient, her bed, and clothing. A clean bed-spread and some attar of roses, may conceal from the physician, who neglects palpation during the puerperium, a very dangerous condition. Indeed it is well known that lazy nurses in this way endeavor to conceal the results of their negligence. Unclean bedding, or undergarments, or putrid discharges, can scarcely escape the attention of the physician who examines the abdomen as a useful routine practice at his daily visit. By stooping over the patient the nose can be brought sufficiently near the pubes to detect even a slight putrescent odor, and that without attracting the patient's attention or wounding her sensibilities.

Surely, the man who employs all the resources of his art is likely to be the most accurate diagnostician and successful practitioner.

—Professor Osler, whose election to the position of Professor of the Practice of Medicine in Johns Hopkins University was announced in the *REPORTER*, October 13, will not enter upon his duties there until next May. During this winter he will continue to fill the position of Professor of Clinical Medicine at the University of Pennsylvania.

THE INFANT'S PULSE.

BY WILLIAM A. EDWARDS, M.D.,
INSTRUCTOR IN CLINICAL MEDICINE AND PHYSICIAN
TO THE MEDICAL DISPENSARY IN THE UNIVERSITY OF PENNSYLVANIA; PHYSICIAN TO
ST. JOSEPH'S HOSPITAL AND TO THE
DEPT' FOR DISEASES OF CHILDREN; FELLOW OF THE COLLEGE OF PHYSICIANS;
ETC., ETC.

Notwithstanding the importance that is attached to the pulse in adult practice, it is somewhat remarkable that its characteristics in early life are almost unrecorded. It is true that Valleix and Trousseau have formulated their observations on the pulse of the healthy infant, but, unfortunately for practical use, these gentlemen do not agree in their statistics. Cardiac pulsations are of clinical importance very early in foetal life. Mayor, in 1818, was probably the first to put this knowledge to practical service. He was followed by Frankenhäuser who still further investigated the foetal heart sounds; and very recently, such an authority as Jacobi has stated that he was rarely mistaken in diagnosing the sex of the foetus by the character and rhythm of the heart sounds.

In endeavoring to establish a normal standard of the pulse from the moment of birth up to the end of the first year one is met by many difficulties. It is with difficulty that the pulse can be recorded for the first hour after birth; sometimes not until ten days have elapsed can the pulse at the wrist be counted with any degree of accuracy. The first alteration in the pulse after birth is a decrease in its frequency; within an hour it will settle down to an average beat of 136, whereas before birth it has fluctuated between 124 and 150. During the first eighth to quarter-minute after birth the heart pulsations are not discernable; then they commence slowly, so that by the first half-minute they are probably not more than 10 or 12 per minute. At this time a vigorous child will cry, and the pulse rate will become rapidly increased, possibly up to 160, settling down in a short time to between 136 and 140.

Trousseau states that the average pulse of the healthy infant between the first and second month is 137 a minute; from the third to the sixth month 128; and from the sixth to the twelfth month 120.

The infant's pulse is more rapid while it is awake, especially if it is sitting or standing. Muscular or mental emotion may cause the pulse to become extremely rapid; this

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rapidity is most marked in feeble children. Sleep reduces the number of pulse beats very materially. As the child grows older the pulse becomes less impressionable; the child at six years presents an average pulse of 100, and at thirteen one of 88.

The most marked characteristic of the infants pulse is *irregularity*, which occurs whether the child is asleep or awake, at rest or in active movement. Conditions which will hardly perceptibly affect the pulse of the adult will derange the rhythm of the infants pulse to a marked degree; disorders of digestion so common in infancy show marked effect upon the pulse rhythm. Irregularity is also seen during constipation or diarrhoea, and is associated with intestinal worms and with dentition. An important and as yet unrecorded difference between the infant's pulse and that of the adult is the fact that in the former there is an entire absence of dicrotism, and it does not appear until the child has reached the tenth to fourteenth year. Space forbids a full discussion of this peculiarity, but suffice it to say that the infant's pulse has not the same recoil as the adult's; it has furthermore been demonstrated that blood-pressure in the young is very low, and that dicrotism in the adult pulse is produced by conditions that do not exist in the infant. It is also well known, since Marey demonstrated the fact, that the longer the vessel, the greater the dicrotism. Infants present great variability in the size of their arteries; in some of the diatheses the blood vessels are much altered; for example, rickets is attended by large arteries. On the other hand the arterial system may be unduly small. I have elsewhere called attention to this congenital smallness of the arteries. The character of the pulse in infants is difficult to describe; it yields readily to the finger of the observer, is small, irregular, and does not present any marked difference between systole and diastole. One observer aptly remarks that the pulse of infants is deprived of sense, rules, or proportion—a description to which I hesitate to add a single word, so liable is the pulse to be affected by most trivial departures from health. Even a slight accumulation of flatus, for instance, will so alter the pulse that, judging from it alone, one could not avoid concluding that the little patient was the subject of a grave disease.

While irregularity in rhythm may be considered one of the normal features of the pulse, it is not so, however, with *persistent frequency* which is always a manifestation of

cardiac overstrain, no matter how young the child may be; it also occurs in association with anæmia, leukæmia, and malarial intoxication in babes. The frequent action may be constant or paroxysmal in its appearance.

Occasionally in infants we meet with exactly the opposite condition, namely, *infrequent pulse*, which is usually congenital, although I have several times observed an infrequent pulse associated with the jaundice that is common during the early months of life, and also with renal disorders. The congenital cases are liable to present also evidences of cerebral disturbances, great mental excitement or epileptiform attacks.

SOCIETY REPORTS.

AMERICAN SURGICAL ASSOCIATION.

ANNUAL MEETING, AT WASHINGTON, D. C.,
SEPTEMBER 18, 19 AND 20, 1888.

Thursday, Third Day, Sept. 20.

MORNING SESSION.

GEORGE W. GAY, M.D., Boston, read a paper on

The Comparative Merits of Tracheotomy and Intubation in the Treatment of Croup.

Dr. O'Dwyer's method of intubing the larynx has now been before the profession in a prominent manner about three years, and it is surely gaining favor as its merits and its limitations are being more clearly understood.

The operation has its advantages and its disadvantages. It gives relief to the dyspnoea and it saves lives. The statistics of recovery vary much, as in tracheotomy. Twenty-six per cent. is a fair average after intubation. The recovery rate in 327 tracheotomies performed at the Boston City Hospital, was 29 per cent. In about 100 cases of intubation performed at the same institution the rate of recovery was 26 per cent. showing a little smaller percentage than the old operation. It is not claimed that these figures and facts are conclusive. The number of intubations is, as yet too small to settle the question. The recovery of patients under three years of age was in the same proportion after each operation, namely 12 per cent.

O'Dwyer, Brown and Waxham save about one in four after intubation; Huber and

Montgomery save one in two; Northrup and Denhard save one in five; Jennings, one in ten; Chatham, one in fifteen; and A. B. Strong, one in thirty-one. This variation of results in the experience of different operators, proves conclusively that the type of the disease determines the result to a great extent, far more in fact, than any mode of treatment.

The conclusion on this point is that the new operation saves nearly or quite as many patients as did the old.

In regard to the facility of doing intubation, it may like tracheotomy be easy or difficult, according to the age of the child, the condition of the larynx and the strength of the patient. Both operations are difficult in children under three or four years of age and both are attended with some danger. In tracheotomy the risk lies principally in hemorrhage and collapse. In intubation it lies in pushing membrane, etc., down in front of the tube, producing more or less complete obstruction. In very weak children collapse may result from prolonged efforts at placing the laryngeal tube. Under these circumstances the surgeon should choose the operation with which he is most familiar. The old operation can be done with one good assistant. Intubation requires at least two fairly good ones. Unless great care be taken the operator's fingers may be severely bitten, which in at least one case, has resulted in death.

It is desirable to have a physician close at hand for 3 or 4 days after both operations. If the tube must be allowed to take care of itself intubation is preferable. If ordinary care, such as a good nurse or other clever person can give, is available in cases located at a great distance from a physician who can place O'Dwyer's tubes, then the old operation is better, there being less danger of fatal obstruction and the question of feeding giving less anxiety.

The weight of testimony goes to prove that it is less work to take care of intubated than of tracheotomized patients. The time occupied in caring for the tube in the latter class, is largely taken up in feeding the former class of patients.

Northrup's statistics of 107 autopsies performed at the N. Y. Foundling Hospital go to prove that there is no such thing as "food pneumonia," as in no instance were signs of food found in the smaller bronchi. Dr. O'Dwyer advances the opinion that the secondary lung affections, especially of pneumonia, are due to retained secretions which, owing to the presence of the tube in either

operation, cannot be ejected by coughing. Others think that this complication is due to the fact that the air enters the lungs without first being warmed and moistened by passing through the nasal chambers. The author ascribes these affections to the natural tendency of exudative processes to extend in all directions, and bases the opinion upon the fact that pulmonary complications are as frequent in cases not receiving surgical treatment, run the same course and are as fatal as in those in which operation is resorted to.

While a wound in the skin is objectionable on general principles, yet the wound of tracheotomy gives little trouble and does little harm. The diphtheritic poison gains admission to the system before the wound exists and the course of the disease as regards sepsis is the same after as before the operation. In only six of the 327 operations at the City Hospital of Boston was diphtheria in the wound noted; three of these cases recovered. Both tubes may produce ulceration in the trachea, but the result is seldom serious.

Conclusions.—1. Intubation may be tried, in all cases of croup.

2. It is preferable in young children and in cases in which the tube must be left entirely to itself.

3. It may be resorted to for euthanasia, provided the operator is reasonably expert and can do it without producing collapse.

4. Tracheotomy is called for in those cases in which intubation can not be done or in which it fails to give relief; or in which the laryngeal tube is repeatedly ejected or requires frequent removal for cleansing. It may also be required in those cases in which sufficient food can not be given while the O'Dwyer tube is in position. It is also preferable in cases situated at a distance from a surgeon capable of introducing the laryngeal tube.

5. The tracheotomy instruments should always be at hand in intubation in case of emergency.

In opening the discussion on the paper of Dr. Gay, Dr. H. H. MUDD, St. Louis, said that intubation had been done as a precautionary measure in many cases, in which tracheotomy would not have been thought of. Some of the good results of intubation are to be attributed to this fact. In most of his cases of intubation where the patient survived he had found it necessary to resort to tracheotomy. Patients have recovered after tracheotomy where intubation has proved unsuccessful.

PROF. THOMAS ANNANDALE called atten-

tion to the value of the introduction of a tube through the glottis in cases of operation about the throat where there was risk of suffocation or of hemorrhage into the trachea.

DR. HUBER, of New York, had performed intubation in 94 cases with recovery in 37. He does not operate early. He considers the internal use of bichloride of mercury as of equal importance as the intubation. There is occasionally an advantage in using a small tube with the expectation that it will be coughed out and with it a portion of the membrane, and affording an opportunity for feeding while the tube is out.

DR. T. F. PREWITT, St. Louis, in one case of diphtheritic paralysis had, in order to avoid passage of fluid into larynx, passed a catheter through the glottis and plugged the larynx with a sponge. This permitted the fluid to go into the oesophagus without risk of entering the trachea. After feeding, the sponge and tube were removed.

DR. D. W. CHEEVER, Boston, advocated the disuse of anesthetics in cases of tracheotomy provided proper assistants can be secured. The operation is not accompanied with much pain. By avoiding the anæsthetic many of the risks of the operation are avoided.

The next paper, by DR. L. McLANE TIFFANY, of Baltimore, was entitled

Pregnancy and Operative Surgery: Their Mutual Relations.

The following conclusions were presented:

Conclusions: 1. Pregnancy is a physiological condition and does not contra-indicate a surgical operation. 2. During pregnancy temporary strain may be exerted on some organ, e.g., kidney, inducing impairment of function. 3. A surgical operation upon a pregnant woman is to be conducted so as to avoid inducing abortion, in itself a serious accident. 4. The main cause of abortion after operation is sepsis. 5. The probability of sepsis after operation is increased if the patient is suffering from disease, either temporary or chronic. 6. Abortion may result from operation—shock perhaps. 7. Hæmorrhage does not seem to induce abortion. 8. Union of fracture may be retarded by pregnancy. 9. Recorded cases show that the unborn child receives no evil impress when the mother is subjected to operation. 10. When a surgical operation upon a pregnant woman is under consideration, the function of all the patient's organs must be carefully investigated and regulated. An operation then conducted antiseptically may be expected

to result as though pregnancy were not present.

DR. J. EWING MEARS, Philadelphia, in opening the discussion, thought that while pregnancy was to be regarded as a physiological process in the native woman, it could not be considered in this light in the society woman. Another important point to be considered was whether the operation required was one of expediency or of necessity. In the latter case the surgeon must do his duty let the result be what it may; but whether or not operations of expediency were to be performed on the pregnant was a question only to be decided by further experience.

DR. P. S. CONNER, Cincinnati, reported a case of subcutaneous operation for ankylosis of the knee in a woman who it was subsequently learned was six weeks pregnant. The operation was followed by severe septic infection, but this did not interfere with the normal course of the pregnancy.

DR. WILLIAM HUNT, of Philadelphia, raised the question whether or not in the case of inevitably fatal injury of a pregnant woman, as from burns, it was justifiable to run the risk of sacrificing the mother a few days sooner, when by so doing the life of the child might be saved, or must we wait until the last breath has left the body before making the incision?

DR. R. B. BONTECOU, Troy, reported the case of a rupture of an umbilical hernia in a woman seven months pregnant. The intestines were out four hours. They were then cleaned and replaced. The woman recovered, and a healthy child was born one month later.

DR. L. McLANE TIFFANY, of Baltimore, thought that in the case suggested by Dr. Hunt, there could be no question as to the propriety of operation. By so doing, one life may be saved.

DR. N. P. DANDRIDGE, Cincinnati, read a paper on

Nerve Stretching.

The following conclusions were presented:

1. That nerve stretching should be condemned in all forms of central disease, such as tabes, myelitis, etc. 2. That it offers little prospect of relief in tetanus. 3. That it should be regarded as a reliable method in cases of persistent neuralgia and peripheral paralysis of sensation in the extremities. 4. That stretching the facial is indicated in tic-convulsive. 5. That further trial is justified in reflex epilepsy. 6. That stretching the lingual should be tried in painful affections of the tongue. 7. That resection should always be preferred to stretching in

the spinal accessory and in the branches of the fifth nerve, except the lingual.

AFTERNOON SESSION.

DR. DE FOREST WILLARD, Philadelphia, read a paper on

Nephrectomy.

1. Gun-shot wound of the kidney.
2. Tubercular disease of the kidney.

Case I.—Male, mulatto, æt. 17, was shot July 10, 1887, at such close range as to burn clothing and skin. He was able to walk one-fourth of a mile to the hospital, and the shock was but moderate. Symptoms of internal hemorrhage steadily increased, and when seen by Dr. Willard, four hours after the injury, the signs of collapse were imminent. The ball entered just above the 11th rib, three and one-half inches from the spinous process. There was no wound of exit. Almost pure blood was voided from the bladder and continued to flow freely. The entire left side of the abdomen was dull on percussion, and there was every evidence that there had been an escape of intestinal contents as well as urine and blood into the peritoneal cavity.

Abdominal incision was therefore chosen as best suited to arrest hemorrhage, repair injured organs and remove clots. The bladder was found full of blood, but uninjured. Ureters, the same. The huge hæmatocele was found to be retro-peritoneal, filling all the tissues in the loin and downward into the pelvis. The left kidney was traversed by the ball from the centre of the rim to the infundibulum, and the renal artery and vein cut. Aseptic silk ligatures were applied and the organ removed. The ball had passed behind the peritoneum without injuring other organs and could not be found. No blood or fæces were found in the peritoneal cavity. The sight of the extirpation was thoroughly mopped with sublimate solution, 1-10,000, made with boiling distilled water, and the abdomen irrigated with hot distilled water. The utmost precautions were taken to prevent infection and all the dressings were thoroughly antiseptic. The temperature during the next four days varied from 99.4° to 101.4°. About 20 ounces of slightly albuminous urine were secreted daily. The skin was kept active and no signs of uræmia at any time made their appearance. The patient, however, died of loss of blood, shock and exhaustion eighty-six hours after the injury. At the post-mortem no blood or pus was found in the peritoneal cavity

and the adhesions between the serous surfaces were very slight. There was no pus at the sight of the nephrectomy and the hæmatocele was perfectly aseptic. The ball had grazed the 11th rib, passed just below the pleura without entering it, had perforated the diaphragm, left kidney, the renal artery and vein and the sheath of the aorta just at the origin of the renal artery, being found lying directly upon the aorta. The right kidney was healthy.

In his remarks Dr. Willard dwelt upon the advantages of abdominal incision, where the probabilities of other organs having been injured, were so great; as hemorrhage could be arrested, perforations repaired and escaped fluid removed. Drainage through the loin or abdomen was not advisable, provided urine had not escaped into the peritoneal cavity before the operation. The hæmatocele if large and retro-peritoneal could not be thoroughly removed and should therefore be allowed to remain undisturbed. All fluids in the abdominal cavity should be removed.

The three primary nephrectomies for gun-shot wound thus far reported have all been done by Philadelphia surgeons. Keen (*Trans. Amer. Surg. Asso.* vol. v, p. 193) removed the left kidney of a girl of 18, in whom the ball had perforated the stomach, liver, spleen and kidney. This patient died on the 15th day. Price (*Trans. Penna. State Society*, 1888) removed the right kidney in a girl of 14, in whom the liver was also perforated. His patient recovered after multiple abscess of the liver. Dr. Willard's case died on the fourth day. In none of these cases was there anuria.

Nephrectomy for Tubercular Kidney.

Case II.—Female, æt. 32, married 8 years but never pregnant. Tubercular history of ancestry uncertain. Failing in health for ten months. Seven weeks ago first noticed tumor in right side of abdomen. Has had increasing pain in this region. This is now very severe at times. Has emaciated rapidly. Temperature varying from 99° in the morning to 101° in the evening. Diarrhœa quite constant. Passes large amounts of pus in the urine. Urine 1-6 albuminous but contains no casts and no distinctive cell elements. Tumor rounded in form occupies the space from the right renal region forward to linea semilunaris and vertically from lower margin of liver to line of anterior superior spinous process. Indistinct dullness extending into pelvis. Resonance between liver and tumor. Tumor movable.

Diagnosis uncertain as to purulent kidney or sarcoma of kidney. The size of the tumor and its projection forward determined the selection of the abdominal median incision. The right side of abdomen was found filled with thick sack giving indistinct sense of fluctuation. From it extended downward, two elongated masses, one evidently a pus-filled ureter, and the other a mass extending down from the external iliac vessels and passing under Poupart's ligament. Puncture evacuated only a few drachms of pus and did not diminish its size. Tearing open the sac the kidney was found riddled with multiple abscesses. The vessels and the ureter low down, were tied with silk ligatures and the kidney removed. The abdominal cavity was irrigated with distilled water, drainage tubes inserted behind the uterus and into the site of the nephrectomy, and the wound closed with one set of sutures. The woman was exceedingly low during the operation, but rallied so that the temperature rose to 99° and she became perfectly conscious. Two hours after operation she suddenly sank and died.

The post mortem showed that behind the suppurating kidney and in a separate sack, divided from it by a wall two lines in thickness, was another pus sac. This sac was three inches wide and the pus had worked its way down the aorta, common iliac and iliac arteries to Poupart's ligament. If nephrotomy had been attempted this sack might have been drained and the kidney never reached at all. No hemorrhage after operation. Death from shock. The other kidney was enlarged but not diseased.

In opening the discussion, Dr. W. W. KEEN, Philadelphia, said that blood exuded between the folds of the peritoneum was not a source of danger and that it might be left without interference. If we could make out that the kidney alone was injured the lumbar incision would be the proper one. Where there is a probability of injury of other structures, the abdominal incision is the best.

Dr. JAMES McCANN, Pittsburg, reported a case of nephrectomy for multiple abscess in which the patient died suddenly six hours after operation.

Dr. L. McLANE TIFFANY, of Baltimore, held that in simple gunshot wound of the kidney the proper plan was to drain the kidney through the lumbar region and not to perform nephrectomy.

Dr. CHAS. T. PARKES, Chicago, reported a case of gunshot injury of the abdomen, in which in addition to a number of perforations in the bowel the ball entered

the kidney. The intestinal wounds were closed. No operative procedure was performed on the kidney. The patient died from hemorrhage from the kidney 24 hours later.

Dr. KEEN thought that in the condition referred to by Dr. Tiffany, the proper plan was to drain, but where there is much injury of other parts the patient will stand a better chance if the wounded kidney is removed.

Dr. ROBERT F. WEIR, New York: If there is simply a gun-shot wound of the kidney, the organ should be thoroughly exposed in order to ascertain the extent of the injury. Then thorough drainage should be employed and to guard against hemorrhage, the wound should be tamponed with iodoform gauze.

Dr. H. H. MUDD, St. Louis, reported a case of lacerated wound of the kidney in which drainage was adopted. Irregular fever and loss of strength supervened and 51 days after the injury the kidney was removed. The whole organ was in a state of parenchymatous nephritis.

Dr. C. B. NANCREDE, Philadelphia, had in his paper last year recommended that in gun-shot wounds of the abdomen involving the kidney, an attempt should be made to save the organ when that was possible. He had also suggested packing of the kidney to prevent hemorrhage.

Dr. R. N. ISHAM, of Chicago, considered hæmaturia a pathognomonic sign of injury of the kidney. There are two forms of laceration of the kidney, those in which the capsule is involved in the injury and those in which it is not. In the first operation will probably be required. In the second no operative procedure may be required.

Dr. DAVID W. CHEEVER, Boston read a paper on

Shock.

The operative surgery of our time has annulled pain, arrested hemorrhage, averted septic absorption, but it has not prevented shock. The object of the paper was to inquire whether or not modern surgical procedure had diminished shock, wherein it fails to do so, and to suggest improvement of its defects. A simple description of the degrees of shock is: apprehension, fluttering, sweating, chilliness, pain, vertigo, nausea, faintness, convulsions, unconsciousness and collapse. Moderate shock terminates in reaction. Severe shock is more lasting and is a condition where a feather turns the scale against the patient. An operation at this period causes renewed and prolonged shock. The effect of modern surgery has

been to diminish primary shock and to increase secondary shock. The time of an operation since the introduction of anæsthetics has been much prolonged. Do we realize what this prolonged cutting, pinching and dissection mean to the nervous system? It is unphilosophical and fatal to operate in cases of primary shock before reaction has come on. The golden moment of fairly established reaction must be seized before traumatic fever sets in. This moment comes in from six to eighteen hours after the injury or it never comes. Anæsthesia does not diminish existing shock, but only annuls the additional shock from pain produced by cutting. If prolonged it adds to the secondary shock. There is lowering of bodily temperature after operation under anæsthesia, even to 97° or 96° . This is due to the anæsthesia which, if prolonged, ends in dripping sweat; to careless exposure of patient; largely to antiseptic irrigation, and to the application of cloths wet with antiseptic solutions around seat of injury. Nausea frequently follows anæsthesia. This is one of the marked symptom of severe shock. It is a most dangerous factor in preventing reaction.

In order to diminish shock: 1. wait for reaction. 2. Never neglect to calm the mental state by a cheerful word and personal presence. 3. Give alcohol a quarter of an hour before anæsthetics. 4. Make the anæsthesia short. 5. Operate as rapidly as possible. 6. As short dressing as possible. 7. Avoid chilling of the patient.

To promote reaction after operation: 1. Persistently and carefully applied dry heat. 2. Liquid nourishment combined with a stimulant and a little laudanum by enema. 3. Subcutaneous injection of brandy. 4. Aromatic spirits of ammonia by the mouth. 5. Black coffee and brandy—the stimulant par excellence when it can be retained by the stomach. 6. Quiet; a more than horizontal position; sleep; assurance that all is over and doing well.

Modern surgery has won three great triumphs. 1. It substitutes sleep for pain. 2. It averts secondary hemorrhage by animal ligature. 3. It prevents fermentation by germicidal applications.

4. Can we add a fourth by stilling the nervous system and averting secondary shock?

In opening the discussion, Dr. W. W. GAY, Boston, dwelt upon the importance of preserving animal heat. He is in the habit of using a small dose of morphia hypodermically (1-12 to 1-20) before begin-

ning a capital operation. If the operation is a severe one, the patient is not removed from his bed and is given only a few whiffs of ether to obtund the pain of the first incision.

DR. C. B. NANCREDE, Philadelphia, was in the habit in cases where it was doubtful whether or not the patient had recovered sufficiently to bear an operation, of employing the "ether test." If after the administration of the anæsthetic is commenced, the pulse and the general condition improves, the patient will stand the shock of the operation. If however, the respirations increase in rapidity and the pulse becomes frequent and weak, the ether is removed. These patients never react. Shock is often kept up by a crushed limb. In these cases the condition often rapidly improves when the limb is removed. In order to favor the flow of blood to the head, and to overcome the consequence of its collection in the abdominal vessels he had employed elevation of the limb and the application of the Esmarch bandage.

DR. LANGE, of New York, thought that the influence of loss of blood in the production of shock, was under-rated. He could not recall an instance of prolonged operation in which shock followed provided extreme loss of blood was prevented. In operations where loss of blood is apprehended, he employs large rectal injections of hot water.

DR. B. A. WATSON, of Jersey City, referred to the experiments which he had made showing the influence of ether and of chloroform on temperature.

DR. DAVID PRINCE, of Jacksonville, recommended the use of small doses of morphia with tincture of digitalis hypodermically to guard against reflex action and against depression. He considered reflex action an important cause of shock. He also advised that the temperature of the part operated upon should be maintained.

The paper was also discussed by Drs. Weir, Bontecou, Tiffany, Willard, and Moore. Dr. B. A. Watson, Jersey City, moved that a vote of thanks be extended Dr. C. H. Mastin of Mobile for his efforts in introducing and perfecting the plan of organization of the Congress of American Physicians and Surgeons. This motion seconded by Dr. E. M. Moore, of Rochester, and by Dr. Wm. H. Pancoast, of Philadelphia, was unanimously adopted.

After extending to the retiring officers a vote of thanks the Association adjourned to meet in Washington, the second Tuesday of May, 1889.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, September 26, 1888.

The President, J. SOLIS-COHEN, M.D.,
in the chair.

DR. SAMUEL W. GROSS read the following
paper on

The Treatment of Carcinoma of the Breast.

Of operations which do not rank with major procedures, not one is more commonly practised by men not skilled in the manual of surgery than that of the removal of the mammary gland for carcinoma. The superficial situation of the organ, the ease with which hemorrhage is controlled, the flaps are united, and the dressings applied, all tend to make partial or complete extirpation of the breast a tempting field for the young surgeon. If to these considerations be added the great frequency of the disease, it will be seen that its treatment should constitute an instructive topic for consideration and discussion by this body.

In accepting your invitation, Mr. President, to make the opening remarks upon the subject, I take it that a brief narration of my own personal experience will prove to be more interesting than were I to deal with the practice of others, the more especially as the operation which I have performed is more thorough than the usual procedure.

At the outset I will state that in the management of so lethal an affection I have relied upon the scalpel, as I believe it to be the one and only measure which is capable of affording good results. It may be that some of my hearers are sceptical as to the propriety of interference. The old tradition that carcinoma is an outward evidence of a blood disorder, and that it cannot, consequently, be cured by operation, may still influence a few of our members. To these I may be permitted to say, first, that the leading minds of the world now admit that carcinoma is primarily a local growth; and, secondly, as I have elsewhere¹ conclusively shown, from an impartial examination of a large number of cases, that the knife not only prevents the local dissemination of the disease, its extension to the lymphatic glands, and the occurrence of secondary growths in a large percentage of cases, but

that it moreover prolongs life, and definitely cures one patient out of every eight and a half.

An operation in a suitable case having been decided upon, the one selected by the majority of surgeons is that with which we are all so familiar, namely, the inclusion of the nipple and a portion of the skin in two elliptical incisions, the reflection of the flaps, and the dissection of the gland from the surrounding tissues. Other surgeons, actuated by the desire to save as much of the gland as possible, limit their efforts to the extirpation of the tumor alone. The first of these procedures is faulty enough; the latter cannot be condemned in too severe terms; and yet, in his recent monograph on "The Operative Surgery of Malignant Disease," Butlin, I am sorry to say, recommends it. A knowledge of the changes which, starting from the tumor itself, ensue in the remainder of the breast, in the adjacent soft tissues, and in the associated lymphatic glands, which changes indicate the local extension of the disease along the lymph paths, ought surely to lead the surgeon to reject such irrational operations. In very exceptional instances a cure may be effected; but we all know what is the common result—a more or less rapid recurrence of the disease; a favorable issue being so uncommon after these incomplete operations that few, if any, of us have ever witnessed it.

Dissatisfaction with my own earlier results and those which I was enabled to follow in the practice of other surgeons led me, ten years ago, to adopt a radical procedure, the object being to effect riddance of all the tissues in which the experience of hundreds of years demonstrates that recurrence, or a new outbreak of the disease, takes place. Hence, in my operation, which is minutely described in the *American Journal of the Medical Sciences* for April, 1888, I amputate, by a circular cut, the entire breast with its overlying skin and fat, dissect off the pectoral fascia, and carry an incision into the axilla, through which I am enabled to extirpate its contents. If nodules should be found in the pectoral or intercostal muscles, they are also removed with an equally unsparing hand. The edges of the wounds are then approximated, the closure of the breast incision being greatly facilitated by raising the flaps from the subjacent tissues for an inch and a half to two inches, and the employment of button sutures. In some cases, the wound cannot be entirely united, so that it has to heal by the process of granulation.

¹ *American Journal of the Medical Sciences* for April, 1888.

In the discussion which will follow the reading of my paper, I will doubtless be asked, first, Why do you remove the entire breast and its surrounding tissues? and, secondly, Why do you attack the axilla in all cases? My answer is simply because recurrence, or a new outbreak of the disease, ensues in tissues which are left behind in the less radical modes of operating. The accumulated observations of surgeons show that recurrence may be anticipated in the skin and subcutaneous tissues, especially at or near the cicatrice; in the fascia covering the pectoral muscle; in the remnant of the breast from which the tumor alone was excised; in outlying lobules which were overlooked during the performance of the less complete operations, and in the lymphatic glands, especially those of the axilla.

Answering these questions more fully, I would say that sound pathology, as well as experience, demands that the entire mammary gland along with its circumjacent tissues should be amputated; first, because we have to deal with a carcinomatous degeneration commencing at one point, from which the cells migrate in various directions into the remainder of the breast and the surrounding tissues, the extent of which migration into the lymphatics and their radicles it is impossible to determine with the naked eye; secondly, because the disease is sometimes multiple, and the smaller growths are only detected on examining the breast after its removal; thirdly, because minute lobules frequently lie at some distance from the main body of the gland, especially toward the axilla and the clavicle, which may subsequently become the seat of a new outbreak, even as late as ten years, as in a remarkable instance recorded by Banks; and, fourthly, because nodules may be found in the subcutaneous tissues at a relatively great distance from the breast, which would certainly have escaped detection in the lesser operations.

My answer to the second question, Why do you attack the axilla in every case? is because the axillary glands are almost always diseased, even though they cannot be felt prior to operation. Of my 45 cases, the glands were not palpable in 18, but in 15 of these they were present when the axillary space was opened. In 57 out of 65 similar cases, Kuester found that the glands were infected, so that our combined experience demonstrates that the glands are invaded in 86 out of every 100 cases in which there is no external evidence of their

implication. Hence, if the axilla is not evacuated of its contents in every case, a subsequent operation will almost surely be demanded. In point of fact, I consider this step as the keynote of the procedure, and I refuse to operate if I am not permitted to have my own way in this regard.

Although the procedure which I have described may appear to be unnecessarily severe as to the sacrifice of tissue, and, at first sight, seem to be attended with more risk than operations performed with a more sparing hand, I have still to present some facts which conclusively show that it is the best that has as yet been practised as regards mortality, freedom from local recurrence, and a final cure.

Of my 45 cases, 2, or 4.44 per cent., perished from the operation, and 5 patients were lost sight of after recovery. Deducting the 7 that died and could not be traced, 38 cases show local recurrence in 11, or 28.95 per cent. Including the deaths, out of 40 cases, 9, or 22.5 per cent., recovered. Of these, 1 died of an intercurrent disease in 7 years and 10 months, while the remainder are still doing well: 1 for 9 years and 10 months; 1 for 9 years and 1 month; 1 for 6 years and 9 months; 1 for 4 years and 3 months; 1 for 3 years and 11 months; 2 for 3 years and 6 months; and 1 for 3 years and 5 days.

Let us contrast these results with those afforded by the next best operation, namely, the removal of the breast by flaps and the evacuation of the contents of the axilla in every case. Of 328 cases of this description in the hands of Banks, Kuester, and von Bergmann, 10.67 per cent. perished, there was local recurrence in 54.92 per cent., and 15.15 per cent. were cured; so that my operation is safer by 6.23 per cent., is less liable to local recurrence by 25.77 per cent., and affords 7.35 per cent. more of permanent recoveries.

It is quite certain that the greater immunity from local reproduction of the disease in my operation is due to the total amputation of the breast, its skin, and enveloping fat. Despite the fact that my results are better than any that have heretofore been recorded, a careful examination of the cases of Banks shows that he met with only 3.88 per cent. more of recurrences than I have, and that his percentage of recoveries, namely, 20.77, is only 1.73 per cent. less than my own. Hence, I felt that I might possibly have sacrificed too much of the skin; and, since June, 1887, I have so far modified my operation in 10 cases, the skin

in none being apparently affected, as to save enough of that structure to admit of nice approximation of the edges of the wound. All recovered from the operation; one died from recurrence in the axilla and metastasis; one is living with axillary reproduction; in not one has there been local reproduction; one patient is free from disease at the end of fifteen months; one for one year; one for nine months; and the remainder for periods varying between three and eight months. These cases can be followed and whenever I am sure of being able to trace my patients, I shall give this procedure a fair trial. When, on the other hand, the patient lives at a great distance, or her circumstances are such as to prevent her visiting me in the event of recurrence, I will adhere to the more extensive operation.

DR. JAMES COLLINS, in opening the discussion, said: I have on two or three occasions, in the case of small tumors in comparatively young women, allowed myself to be overruled by the patient and her friends, who urged that it would be a pity to sacrifice so much of the breast as I proposed, to performing a restricted operation; but I have regretted it in every instance, and I can assure Prof. Gross that I will never offend again. That which Dr. Gross describes as the "second-best operation," the large elliptical incision with thorough removal of tissues beneath the skin and exploration of the axilla, is the one I have practiced in the majority of my cases. The prolongation of life in those I have been able to follow would average not quite three years.

The great difficulty we have to contend with in mammary tumors is to secure consent to an early operation. Patients go from surgeon to surgeon, and from city to city, and finally consent to an operation as a last resort or in deference to an authoritative opinion; usually, however, too late to escape recurrence. The recurrence which then takes place, despite skillful operation by a distinguished hand, will be cited in discouragement of timely operation in other cases, by a large circle of relatives and friends.

The exploration of the axilla, which the lecturer in his masterly demonstration has so justly emphasized, should never be omitted. Nor is it too trite a remark to recall that antiseptic methods, which have so improved the results of extended operations, should here also remove any lingering dread of opening up large spaces; for they have improved the outlook of the procedure by assisting the rapidity of healing, and exclud-

ing the danger of septic accidents and sequelæ.

DR. O. H. ALLIS: I have nothing to add in discussion; I have repeatedly seen Prof. Gross operate, and there is one point in his method of operation to which I would call especial attention. The breast having been covered for twenty-four hours with antiseptic solutions and his hands being thoroughly aseptic, he carefully palpates the pectoral region for outlying nodules, marking the site of any that he finds with a pencil-stroke; and when he operates he does not dissect out these places but includes them well within the sweep of the line of incision. In other words, he cuts beyond the outer limits of the disease.

DR. JOHN B. ROBERTS: Dr. Gross has for many years taught us all the proper way to remove a breast, that is, to remove it thoroughly. In my own operations, I have, whenever possible, employed the large elliptical incision; the advantage, and I confess the only one, being that when approximation of the edges of the wound is at all possible, it can by this method be more readily effected. No one who has learned from Prof. Gross the proper way to open the axilla would dare to neglect this portion of the operation. As to aseptic and antiseptic methods, there can be no difference of opinion among experienced operators; they are the only methods permissible in operative surgery. I would like to ask Dr. Gross how long it takes to repair one of the large spaces in what he calls the dinner-plate incision, and what his opinion would be as to the prospects of a plastic operation to aid in hastening healing.

DR. R. BRUCE BURNS: Of all surgical cases these are the most unsatisfactory. In my earliest operations I did not open the axilla. Three cases operated on in this way are living for eleven, nine, and five years respectively. Of later years I have opened the axilla, and have been unfortunate. Recurrence has taken place in the cicatrices and even in the axillary tissues, perhaps in small glands not removed. I have thought, perhaps, it recurred in the adipose tissues. I have usually employed the elliptical incision. The method of leaving a large open wound to heal by granulation is rather hazardous. In all cases where I have had to depend upon extensive granulation there has been rapid recurrence and metastasis. There may also be limitation of the movements of the arm from matting of the tissues. It is wise always to attempt to secure union by first intention. It would be well

to attempt to remove outlying nodules in the surrounding tissues. Where nodules occupy a portion of the gland (mammary) and are intimately attached to it, the whole organ should be removed.

Antiseptic measures are only so far useful as, in arranging them, you secure aseptic conditions. I believe thorough cleanliness in all respects, as to instruments, dressings, and the surgeon's hands, with good drainage, is all that is necessary in the treatment of the wounds of operations.

DR. GROSS, in closing the discussion, said: There are many points which might have been touched upon in the paper which I omitted for the sake of brevity. Societies do not like to listen to long papers, and the best speakers teach little in long papers. The points I have tried to emphasize are, the importance of a thorough operation, and the fact that its results are better than those of incomplete operations.

Now as to primary union. Of course, I want to get primary union whenever I can. Those who have never seen my operation would be surprised to see how close an approximation we can get by sliding the bistoury under the skin, say for from one to two inches, and then drawing the loosened flaps together with button sutures. Sometimes when there has been very extensive disease, necessitating correspondingly extensive operation, we have a gap left to granulate of two or three fingers' breadth—never more than three fingers' breadth. Healing may be slow in a debilitated subject with a large wound, but averages about six weeks.

Now as to saving the breast, and only removing the tumor itself—I do not care for the breast. It is of no use. I am concerned in getting rid of all diseased tissues. What surgeon would undertake to remove a sarcoma of the thigh, for example, and for the sake of leaving a little more stump, make his flaps through infiltrated tissue? I should consider such a procedure criminal. Yet it is just what some surgeons want us to do in the breast. In my last ten cases I did, for reasons stated in the paper, the lesser operation; and if I find it equally satisfactory in the end, I will adopt it altogether. I am not wedded to one operation, only so far as not only personal experience but the combined statistics of several operators with good results show that my operation has given the best results.

Dr. Burns has had an experience of coincidences. In the cases in which he did not open the axilla and recovery took place, he had a free axilla. I judge that the doctor

thinks recurrence takes place in granulations. Now it is a histological fact that granulation tissue will give rise to granulation tissue alone, and not to epithelial tissue. The granulating surface may be great or small; that has nothing at all to do with recurrence. In those other cases all the disease was not removed, and hence development again took place in the tissues forming the bond of union, or the tissues near the cicatrice.

As to aseptic surgery, I can only say that if anyone has been taught the modern methods and neglects them, and death occurs from erysipelas, pyæmia or septic complication, he cannot be held irresponsible.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 4, 1888.

The President, A. JACOB, M.D., in the chair.

Report of the Delegate to the Congress for the Study of Tuberculosis.

DR. R. C. M. PAGE made the report, which had received the verbal approval of Villemin and Landouzy. They had found that true tubercle generally contains the bacillus, which was first supposed to exist by Bouchard, and afterward discovered by Koch. All other substances occurring in non-tuberculous subjects do not contain this bacillus. The bacillus remains virulent in running water at a temperature of 60° F. for six weeks, and in dried sputa for months. It is the cause, not the result of tuberculosis. The disease is contagious under certain conditions, especially in conditions that tend to produce lowered vitality. It is transmitted through cow's milk, beef, etc. In the diagnosis of pulmonary tuberculosis in doubtful cases, the bacillus should be sought for; but it may not be found in the early stage before it has become liberated. As a further test, a lower animal may be inoculated with some of the patient's sputa, and the bacillus be sought for subsequently. No practical means for destroying the bacillus in patients has yet been discovered. Treatment at present is prophylactic—by attention to climate, food, and exercise, and by medicines directed against symptoms as they arise.

The report of the delegate to the British Medical Association was also read.

DR. E. G. JANEWAY then read a paper on the

Diagnosis of Diseases of the Liver, and the Fever Accompanying Biliary Obstruction.

Physical examination alone, he said, can not be relied upon in diagnosis of diseases of the liver; the etiology and symptomatology have to be taken into account, and in many cases light will be reflected from the condition of the spleen. It is very easy to make a mistake in estimating the size of the liver. Some, he said, regard tympanitic percussion sound intruding on the space for liver flatness as an absolute sign of perforation of the bowel; but he himself had found this to be due in some cases to the existence of a portion of intestine between the liver and diaphragm, and in others to the liver being turned up by a tumified condition of the abdomen. Adhesion of the liver to the diaphragm from perihepatitis may also prevent tympanitic percussion sound from replacing liver flatness in intestinal perforation. We must take into consideration, he said, in studying diseases of the liver, the condition of the heart, lungs, abdominal viscera, and especially of the kidney. An enlarged right kidney may, in one instance, make the liver appear too small, and in another too large, according as it displaces the liver forward and downward or upward and backward. Aneurism and tumors behind the liver have been known to push the organ forward, making it appear large. The intestine or omentum may become adherent to the liver and make it appear enlarged.

Livers were classified according to size in different diseases, but he mentioned cases in which, in the same disease, the liver was in one instance small and in others large, including, of course, cases of cirrhosis. Dr. Janeway regarded nodulation as an important aid in diagnosis in cancer and cirrhosis; but the liver sometimes appears large and smooth because of distribution. He divided livers up into smooth large livers and large nodular livers, and said that here one must rely on other than physical signs in determining the disease present. Illustrations were given in cirrhosis, waxy liver, and infiltrating cancer. He then took up small livers, and said that moderate diminution in size is often difficult to determine.

Aid in diagnosis, he said, is obtained from jaundice; but here also there is liability

to error; for a diseased process surrounding the ducts is more likely to cause jaundice. A limited process may cause it, if it is favorably situated, although jaundice may not be present in a large process. Jaundice is frequently absent in solitary abscess and present in multiple abscess. A case was cited showing that obstruction of the bile-duct is not absolutely necessary to cause complete absence of bile from the feces.

DR. JANEWAY then took up

Fever and Jaundice.

Fever, he said, is sometimes present in cancer of the liver, showing that inflammatory process is not absolutely necessary for the production of fever. The fever may be due to an intercurrent process. We were liable, he said, to be deceived by Weil's disease, the nature of which is not yet thoroughly understood. The intermittent hepatic fever of Charcot, which occurs in connection with obstruction of the bile-ducts, may be mistaken for malarial fever. Exploratory puncture has not done harm, but is not sure to reveal abscess when it is present. It should be made deep and in the axillary region, or behind into the right lobe. Perihepatic friction is an aid in pointing to the proper place in which to make puncture.

DR. A. L. LOOMIS, replying to a question by the President, said he had not known fever to be absent in multiple abscess, but it is frequently absent in single abscess of the liver; further, in his experience, single abscess of the left lobe is very rare. In this last remark the President agreed, whereas Dr. Janeway had found solitary abscess to be situated in the left lobe as compared with the right lobe in about one-third or one-fourth of the cases. The President said that some observers held that the liver was enlarged in rachitic children, while others denied this. A liability to mistake consists in the fact that the liver in young people is normally large; further, that in rachitics the arteries are large as compared with the heart, and the blood pressure low, and consequently the liver would appear large from mechanical stasis. Again, the deformity of the chest pushes the liver downward and forward, making it appear large. He asked if hematemesis early in cirrhosis might be followed by appreciable diminution in the size of the liver, which early in the disease is large.

DR. LOOMIS thought he had seen this result.

SPECIAL CORRESPONDENCE.

LETTER FROM AUSTRALIA.

MELBOURNE, Sept. 1, 1888.

Sanitary Condition of Melbourne.

The rush and excitement connected with the early days of the great Centennial International Exhibition having subsided, I can now devote some time to jotting down the medical notes taken here and there since my arrival. Melbourne is an active handsome city, with a certain American air. It has broad well-paved streets, with no cobblestones, so that the drive-way is one broad sheet of lovely smoothness. It is a luxury to ride here. What a comfort to the driving doctor! What a comfort to sick rooms next to streets! Melbourne on its surface is fair as a rose; it blooms with delight. But the comparison stops here; for its odor is worse than all the stinks of Cologne. The stench is that of a rotton, polluted, undrained city—a city teeming with four hundred thousand people, and not a drain, save one in Collons Street and one in Bourke Street. These have been recently laid, and are only for surface water. So-called earth closets are used; but as nine-tenths of them have no earth supplied to them, the sewage system is practically a mere pan receptacle, and is emptied only once a week. It requires a cigar, perfumery, and curses upon such a system to make one's morning visitation to the closet endurable. The people are being taught the danger of this system by the efforts of the Melbourne Health Society; by the visitations of epidemics of typhoid fever; by the fearful death rate among children, high consumption mortality, and by the general high death rate. Now I do not write this in the spirit of captious criticism; it is not hastily spoken. I refer to the reports of the medical men themselves, and among the latter to the Health Officer of the city.

The general death rate of the colony of Victoria is 13.24 per 1000; that of Melbourne 23 per 1000. Consumption gives the high rate of 23.81 for every 10,000 persons living in Melbourne; while Victoria's rate is only 8.91 in the same number of inhabitants. This cannot be explained by the number of deaths in hospitals, nor by the aggregation of population, for the city has a large area, and is not densely populated as compared with the cities of the Old World; nor by unhealthy occupations, as the laboring classes are in a good

general condition. They get good wages with short hours, the eight-hour system being in vogue. I think the statements of the Health Officer cover the point, and enforce the lesson now so well known by the medical fraternity—the relation of dampness to consumption and of filth to all zymotic diseases. He says: "In this large and growing city we are yet very much in the condition, as regards drainage facilities, in which we were placed by nature—perhaps a little worse. We have gone on, year after year, saturating the soil with all sorts of stinking abominations, and keeping it constantly soaked with the water from our Yanyean reservoir, and it is impossible that we should not suffer from the damp and foulness so engendered." He is quite sure that the excessive death rate from consumption is owing to the bad drainage. He further states that water pumped from cellars is found to be the rankest compound of the villainous smell that ever offended the nostril; and moreover, this bilge water or sewage is so foul that its contact would pollute the purer water in the gutters, so the law insists that it must be deodorized before it can be pumped out from the cellars into the streets. Melbourne can furnish a warning text for sanitary lecturers. Typhoid fever has been very prevalent here for two years, and sanitarians are directing attention to the need for sanitary improvements. It is unfortunate that the first city of Australia should not lead in these matters; but visitors to Adelaide have been struck with the great improvement effected by the adoption there of a system of deep drainage with utilization of the sewage for agricultural purposes. Not only is there comfort from the increased cleanliness and freedom from smells, but the death rate has been considerably lowered and the citizens appear to be unanimous in opinion that the money required has been well spent. It is the feeling of the Victorian doctors that if the bill for establishing a metropolitan board of works can be carried through Parliament this year, a beginning will be made without delay in the works of drainage.

Australian Health Society.

The Australian Health Society has been in existence twelve years. The objects of the Society are: (1) to create and educate public opinion with regard to sanitary matters in general, by the aid of the platform, the press, and other suitable means; (2) to induce and assist people, by personal influence, example and encouragement to live

in accordance with recognized laws, whereby health is maintained and disease prevented; (3) to seek the removal of all noxious influences deleterious to the public health, and to influence and facilitate legislation in that direction. It is sustained by members who pay five shillings a year. An interesting feature is the meetings for wives and daughters. A series of lectures are given by women, the topics being in the usual orthodox line—circulation and respiration; digestion; the skin; cleanliness; nursing the sick; cooking; dress; accidents, etc. The Society has a large and well patronized library, free to the members of the Society.

I have spoken of the filth question of this city. I find there is a great hue and cry just now of dirt in another direction—the frightful condition of the abattoirs. The accounts published of these are sickening reading. The authorities are at last rousing themselves; a Royal Sanitary Commission has been appointed to enquire into the sanitary condition of the city and its many suburbs; it held its first meeting a few days ago. During the progress of the meeting a Mr. Service, who has been much abroad and looked into these matters, was called upon to "give in his experience." According to this man, the best abattoirs are found in Germany, the worst in Chicago. He said that in Berlin and Munich the abattoirs are kept so clean and tidy that any person could sleep on the premises without experiencing any discomfort. The yards are all carefully paved in order to prevent the retention of any offensive matter, and the method of drainage is perfection. In Berlin they go so far as to practice the æsthetic by the growth of flowering creepers against the wall. He caused much laughter over his description of the Chicago "pork mill." He said that while in the United States, he accompanied a party of men and women on a visit to large abattoirs and a manufacturing establishment in Chicago. It was utterly impossible to approach the yards on foot, the approaches being of the most filthy character, and the yards were in the most unsatisfactory condition; it was one of those institutions in which a pig went in alive at one end and came out tinned pork at the other. Such was the condition of things about the establishment that the women in the party said they would not eat tinned meat again. The question was asked him how they treated the blood at the German abattoirs. This he did not remember, though he saw its importance, as the German sausage

is essentially a blood sausage; but he said that after what he had seen at Munich and Berlin he was not afraid to eat anything German. The commission is now taking into consideration the advisability of sending an expert to Germany to critically examine the system in that country.

The comments on the new method of killing criminals by electricity, as sanctioned by the State of New York, have brought out a number of "leaders" in the daily papers of the colonies. The general expression is in favor of the plan. After a very elaborate dissertation upon the subject, the *Argus* says that example does not terrify, and that the gallows conveys no warning to those who live. In fact, it goes so far as to say that the death sentence should not be used too freely; that it can lose its admonishing effect from the very frequency of the spectacle. It concludes that death in the electric chair may be less painful than death on the scaffold, but it means the same for the criminal, and in the absence of any scientific proof to the contrary will continue to mean the same.

New Zealand Doctors.

We are hearing much on all hands just now concerning the great financial depression in New Zealand. At the late Medical Conference held in Auckland, it was found that the doctors are feeling greatly the pinch of the hard times. It was brought out in the meeting that the profession has been affected by a combination of causes; the season has been a healthful one; the people are economizing, and let their trifling ailments go without calling the doctor; then again the old story the world round—there are too many physicians. A rough census taken during the session shows that there are 26 doctors in Dunedin, 22 in Christ Church, 13 in Wellington, 35 in Auckland, besides a number here and there in the country districts. It was the opinion of the Conference that this is too large a proportion of physicians for a healthful climate like New Zealand. How much akin are the tribulations of our profession; some patients can not pay, others will not. How familiar the story sounds that a New Zealand doctor told me: he handed in a bill to a family for twenty-five dollars; he was induced to take fifteen by reason of the stringency of the times. To his disgust, in a few days he learned that the same family had bought a new and expensive piano. The world is wonderfully alike, whether under Ursa Major or under the Southern Cross.

Medical Practitioners Statute.

The medical profession in Australia is regulated by the Medical Practitioners Statute. This authorizes the appointment of a central board of health, which has control of compulsory vaccination; of quarantine; the sanatorium for contagious diseases; the vaccine lymph farm, and all the affairs of sanitation. In justice to this board, after we know what a lamentable condition the drainage is in, it should be said that their powers are greatly hindered by other branches of the government; but a bill is before the House now to increase their powers. The council of each city, town and shire constitutes a local board of health, and all are in close correspondence with the central board. The board annually expends about \$75,000, inclusive of about \$30,000 in obtaining and keeping up the vaccination of the people. About 85 per cent. of the population are vaccinated, and there are 150 public vaccinators. Rather a unique, but certainly a good power invested in this board, is a supervision of the theatres and places of amusement; the Government refuses the license to such places as are reported unsafe by this body.

The Medical Board consists of three of the medical profession, appointed by the Governor, removable at pleasure. The Board registers the name and addresses of all who are legally qualified to practice. It is proposed to empower the Board, by legislation, to erase from the Register the name of any practitioner guilty of felony or misdemeanor, or for unprofessional conduct. The qualifications for being placed on the Register are: a diploma from any of the colleges of standing in the United Kingdom; of any Colonial college, and any diploma which proves that the holder has passed a regular course of medical study of *not less than three years duration*; the applicant must be native-born or a naturalized citizen. The British Pharmacopœia is the only one recognized. There is also a very stringent Pharmacy law.

The duty of the police medical board is to examine such members of the force as may be sent before it. A strict professional examination is made of each person sent before the board. Upon the Board's report the Police Superannuation Board are guided in their determination whether the applicants are entitled to retire from the force. This makes this body an important one; cases of malingering must be decided, and heavy payments from the public money rest upon its opinion.

There is a medical society in each colony, also an intercolonial one, as well as a branch of the British Medical Association. The Victorian authorities present the curious anomaly of permitting the city at large to be in the most disgraceful condition of filthiness, and yet prosecuting one of its citizens for keeping his premises in an unclean condition. At the Fitzroy court, on Monday last, a butcher was fined forty shillings for keeping on his premises fat and offal in an advanced condition of decomposition; and a dairy man, in the same district, was fined \$30 for allowing a manure bin to overflow and for the accumulation of refuse matter at the very door of the place where the milk was laid in pans to "cream." The judge gave him, besides, a stern lecture upon the danger to the community at large of allowing his dairy to fall into such a filthy condition. It is easy to preach, but oh how hard to practice! How any court could have the—well, the brass to fine and lecture an individual in this town is astounding, when the city itself furnishes no example, or in fact any means, for a man to be clean if he so desired.

C. C. VANDERBECK, M.D.

FOREIGN CORRESPONDENCE.

LETTER FROM BERLIN.

(FROM OUR SPECIAL CORRESPONDENT.)

The Royal Charité being the great clinical centre of the German Empire, the yearly publication of the *Charité Annalen* is always looked for with considerable interest in this country. The latest issue, which has just been published, contains so much interesting and valuable information that the readers of the REPORTER will no doubt welcome some brief extracts from it. The number of patients treated in the hospital within a year was 19,634; of this number 1893 died, while 14,963 were discharged as either cured or improved. Variola, typhus exanthematicus and recurrent fever did not occur at all; diphtheria, scarlet and typhoid fevers were less frequent, but measles and erysipelas more frequent than in the preceding year. It is a singular fact that delirium tremens was found to be constantly increasing, this increase amounting to not less than 50 per cent. since 1877.

Prof. Leyden, in this volume, discusses four cases pertaining to localization of the cortex cerebri. The first patient, a healthy coachman, was suddenly seized with a right-

sided hemiplegia and total aphasia following over-work, mental excitement and a cold. After convalescence symptoms of a typical Jacksonian epilepsy appeared, simultaneously with right-sided anæsthesia. Death ensued in coma. The autopsy revealed infiltration of the external, and also lesions of the internal capsule. In two other cases there was fracture of the petrous portion of the temporal bone, with left-sided intrameningeal hemorrhage. One patient died, the other recovered. The fourth patient, a syphilitic man, fainted suddenly, and, when he came to, showed aphasia. He was cured, the diagnosis of the case being a gumma of the cortex.

Of more general interest are Professor Fränkel's *bacterioscopic examinations of purulent pleuritic exsudations*, and the diagnostic deductions to which they lead. We reproduce here only the salient points. In a sero-fibrinous pleuritis micro-organisms are not found frequently. If streptococci are present, the formation of empyema is to be looked for, or is already in existence and its pus cells have settled. In empyema, which, of course, can also appear primarily, we find micro-organisms of a most diverse nature. Of these, the streptococci and staphylococci are devoid of diagnostic significance. If, however, pneumococci are found exclusively, we have to deal with pleuritis resulting from pneumonia.

Again, if no micro-organisms are found at all, we have to suspect tuberculosis. The tubercular element consists here only in spores, while the tubercle bacilli are but few in number and therefore hard to find.

Professor Brieger communicates a rare case of *tachycardia* with paralysis of the pneumogastric nerve. The patient, a woman 33 years of age, who had borne eleven children, had been a sufferer since her ninth year with dyspnoea and palpitation of the heart. Death resulted from an intercurrent pneumonia. Her pulse registered the enormous number of 250 beats a minute. The diagnosis of paralysis of the pneumogastric nerve was strengthened by the singular fact, that compression of that nerve temporarily aborted the paroxysms.

Professor Fränzel has contributed an interesting little paper on the *conditions contra-indicating the opening of empyemas*. These contra-indications are chiefly the following: 1. When tuberculosis exists simultaneously. 2. When without concomitant phthisis the thorax is rigid and inelastic, and the lung of the affected side remains absolutely inexpandable; as in these

cases a perfect healing of the wound cannot be looked for. 3. When we have to deal with an empyema unaccompanied with fever, especially in persons of advanced age. In these cases an operation is more injurious than helpful.

The communications of Professor Bardeleben, the Nestor of German Surgeons (Billroth being an Austrian, Langenbeck no longer living, and Bergmann being a much younger man) invite our attention by the very name of their author. Bardeleben has given special attention to the question of the *most eligible surgical antiseptics*, and is very emphatic in giving iodoform the foremost place. He uses a solution of iodoform in ether and alcohol (one or two parts in eight) for injections, and for applications to fistulæ, to carious foci, and for the preparation of iodoform gauze. As a new dressing material, Bardeleben recommends moss paste-board saturated with a 1 to 1000 solution of corrosive sublimate, which is advocated by Hagedorn. The chief advantages of this innovation are cheapness, great absorbent power, and capacity to immobilize a part. Bardeleben's method of preserving cat-gut antiseptically is as follows: The cat-gut is placed for a few days in a five per cent. solution of carbolic acid, then into alcohol, and shortly before being used into a one per cent. solution of corrosive sublimate. For sewing bone Bardeleben uses the aluminium-bronze wire, which was introduced first by Professor Sauer. This substance is both elastic and durable.

Of interest also is the report of a death following upon the inhalation of six fluid drachms of chloroform. The patient had a number of lipomata removed, and it is questionable if the anæsthetic caused the result, or if it was an example of one of those sudden deaths in lipomatosis of which Dr. Risch treated in detail some time ago. Throughout the whole of Germany chloroform is the only anæsthetic used, and accidents appear to be of less frequent occurrence with its use than with the use of ether.

Dr. Sommer makes some instructive suggestions regarding the use of *corrosive sublimate in obstetrical practice*. He believes that the bichloride of mercury is by far the most eligible antiseptic agent for the obstetrician both as regards efficacy and safety. He urges, however, two restrictions to its use, which ought to be borne in mind: viz., not to employ the drug unnecessarily, and to apply it only in great dilution. Sommer advocates dilutions of 1 to 5000 and even of 1 to 8000. Post-partum injections of bichloride into

the uterine cavity should be employed, he says, only: first, after infra-uterine operative interferences; second, after expulsion of macerated foetal products; third, when there has been fever before parturition; fourth, in atonic hemorrhages. Symptoms of slight and rapidly disappearing poisoning were observed only in four of all the cases treated in a year's time in the Charité. The use of corrosive sublimate during confinement Dr. Sommer restricts to cases with a quick pulse and temperature over 102.2° F; to cases in which there are bad smelling lochia and a sensitive abdomen; and in cases in which there are late hemorrhages.

Professor Brieger has examined pus taken from seven women who died of *puerperal fever*, and found in cultures made from this pus both streptococci and staphylococci, which, transferred to animals, remained wholly inert. He therefore concludes that the fatal issue of the malady does not depend upon these micro-organisms, but upon some other poisonous substances which are generated in the organism. The same author relates the clinical history of a woman which suggests a relation between the hemorrhagic diathesis and pregnancy. The woman in question, 39 years of age, who had borne three children, showed during her fourth confinement hemorrhages from the nose, gums, and lower extremities, hematuria and bloody stools. Shortly after confinement the woman died, without any previous hemorrhages. This, Professor Brieger thinks, appears to point to a possible relation existing between the diathesis and confinement; though regarding the nature of this relation, no definite deductions can as yet be made.

Professor Gerhardt, Dean of the University of Berlin, has enriched the *Charité Annalen* with a study on the *engorgement of the spleen in pneumonia*. He examined twenty-five cases for the above purpose, and found that in seven cases there was no swelling of the spleen; in six the engorgement was noticeable only in the early phases of the affection, while in ten cases the splenic tumefaction lasted throughout the course of the fever. The important point of the study is, of course, Gerhardt's conclusion regarding the pathogenesis of this symptom. He believes that the actual cause of the engorgement of the spleen in pneumonia does not depend upon febrile processes, nor upon micro-organisms, but upon an aggregation of broken down red and white blood-cells in the spleen—a view that is confirmed by certain other appearances in the affection, such as peptonuria and grass-green stools.

Professor Gerhardt furnishes also some interesting notes on a very rare affection—*lightning-stroke*. The patients in question suffered from various forms of nerve irritation. Noticeable were the so-called "lightning figures," i. e., sensations as if electric discharges were continually going on before them. Another singular symptom appearing in this affection was jaundice, caused, in all probability, by the deposit of the coloring matter of the blood in connection with electric influences. Anæsthesia was also noticeable.

Dr. Müller presents two rare cases of *disease of the stomach*—dilatation of the stomach, and hour-glass constriction with alteration of the axis. In both cases there were violent tetanic paroxysms. Tetanus, he says, is one of the most dreaded complications of affections of the stomach, the mortality in such cases being as high as 62.5 per cent. Its etiology has not yet been satisfactorily established. Tetanus in gastric disease has been thought to be due to a desiccation of the tissues, similar to the cramp in the peroneal muscles which occurs in cholera. Another view is that the tetanus is caused by poisoning with ptomaines, generated in the stomach. The author himself regards it as a reflex symptom.

Professor Ehrlich communicates the clinical history of a case of *pernicious anemia*, in which the pernicious nature of the disease was established during life through examination of the blood. The cause was an injury. The red blood cells were found to be enormously decreased, only numbering 213,000 per cubic millimetre. The leucocytes were reduced in the same proportion, and those formed in bone-marrow were absent altogether. This led to the diagnosis of a grave bone-affection—a view subsequently confirmed by the autopsy, which showed the marrow of the femur to be colorless.

—New cases of yellow fever continue to be reported at Jacksonville, Fla., but are fewer in numbers and not so fatal. The quarantine was raised at Jackson, Mississippi, October 12, and many refugees returned to the city.

—In a paper read before the American Association of Obstetricians and Gynecologists, Sept. 18, 1888 (*American Journal of Obstetrics*, October, 1888), Dr. W. W. Potter reported a case in which he had performed double ovariectomy in a pregnant woman. The patient subsequently went to full term and was delivered of a living child.

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CHARLES W. DULLES, M.D., EDITOR.

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- Write on one side of paper only.
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- Make communications as short as possible.
- NEVER ROLL A MANUSCRIPT! Try to get an envelope or wrapper which will fit it.
- When it is desired to call our attention to something in a newspaper, mark the passage boldly with a colored pencil, and write on the wrapper "Marked copy." Unless this is done, newspapers are not looked at.
- The Editor will be glad to get medical news, but it is important that brevity and actual interest shall characterize communications intended for publication.

DR. MACKENZIE'S BOOK.

The unfortunate discussions in regard to the treatment of the Crown Prince, and afterward Emperor, Frederick of Germany during his last illness have culminated in the formal presentation by Sir Morell Mackenzie of his side of the controversy. This presentation comes in the shape of a book called: "The Fatal Illness of Frederick the Noble," in which the author endeavors to show that he was altogether right in his management of the case, and those who differed with him were altogether wrong.

It is not strange that Dr. Mackenzie felt the dissent and distrust of his German associates, while his patient lived, or was irritated at their triumph when the diagnosis which they made and he denied was confirmed, and when the false hopes with which he inspired the victim gave place to despair

and death. It would not have been improper if he had, in some brief communication to his professional brethren, explained the reasons why he so long and so stoutly maintained that the Crown Prince was not suffering with cancer of the larynx, and refused his assent to the extirpation of the growth. In doing this he might even, without incurring much censure, have answered some of the charges and insinuations against him which he attributed to the envy of German medical men. But, unfortunately for his reputation, he has passed beyond the limits to which a discreet man, conscious of being right and confident of the respect of his professional brethren, would have restricted himself, and has put before the world a statement which will do him more damage than anything which others have stated of him.

We need not now undertake the work of exposing the fatal inconsistencies of Dr. Mackenzie's argument that Gerhardt converted a benign growth in the Crown Prince's larynx into a malignant one, and that Bergmann finally killed him. For our present purpose it is enough to express our condemnation of the spirit which prompted these shameful accusations and our contempt for his undisguised intention to make money out of them.

For the good of our profession, we trust that this book will find no apologists in any civilized land, and that medical men everywhere will do what they can to lessen the disgrace it is likely to bring upon us all by utterly repudiating it. A more stupendous example of the folly to which hatred, malignity, and avarice may drive a man could hardly be imagined; and the responsibility for it may well rest alone upon the individual who was capable of perpetrating it.

THE AIR OF THE BED-ROOM.

The season is now at hand when the problem of ventilation is most important and most difficult of solution. Cold outside, and attempts to maintain a warm temperature inside our houses combine to make living

dangerous to all but the most robust constitutions; and it is not easy to arrange matters so that comfort and safety to health shall go hand in hand. This is especially true in regard to the management of the air in bed-rooms.

There are those who still cling to the idea, which no intelligent medical man now holds, that a cold bed-room is a promoter of health and vigor. Recent studies of the conditions which favor the production of diseases of the lungs leave no doubt that sleeping in a cold room is a most dangerous practice. There are those who can stand it; but it is only because they have unusual powers of resistance. The great mass of mankind, old and young, need to have their bodily temperature carefully maintained at night, and the air they then breathe at about the same temperature as that of the air they breathe by day. Indeed, if there is any difference, it should be that the air which surrounds them when they sleep is somewhat warmer than that in which they move about by day.

For many years those who taught hygiene in popular treatises argued from certain assumptions which had an appearance of soundness, but which were actually unsound, and directly contrary to experience. The fear of what was called foul air led them to underrate the dangers of cold air; and in attempting to escape the former they ran right into the latter. It is strange that these well-meaning teachers failed to see the contradiction to their theories which is furnished by the inhabitants of very cold regions, and that they did not ask themselves why men, and women, and children, who spent the day in the pure and cold air of the Arctic regions and the night in the hot and close atmosphere of their huts, were exceptionally free from diseases of the lungs.

In our day the lesson this fact teaches is better understood, and we know that draughts and a chilly atmosphere in the so-called temperate regions are more dangerous to

life and health than foul air seems to be in the frigid zones.

All this is not intended as a defense of foul air; but rather as a warning against cold air. And, those who give advice as physicians may bear it in mind when consulted in regard to the management of living rooms and sleeping rooms in our cold winters. For bed-rooms especially, they may without fear of error recommend a temperature which shall not put any strain upon immature or frail constitutions, and warn their patients against any system of ventilation which involves a cold bed-room.

Bed-rooms should not be over-heated, but they should never be under-heated. A temperature of about 60° is probably a safe one for sleeping apartments. Ventilation should never be secured by means of open windows, but rather by partly opened doors, with precautions to prevent a draught across a bed, or a current of air from a room in which there is any known source of contamination. If a fresher air is desired than many houses have at about the usual hour for retiring, it may be secured by freely ventilating the sleeping-rooms shortly before they are to be occupied, and the rest of the house for a few minutes before the last member of the family goes to bed.

The details of this method can easily be worked out by any intelligent man or woman, and we believe it will furnish a trustworthy means of securing a safe atmosphere as well as a comfortable one.

The matter is so important that we would gladly devote more space to its consideration; but we must leave it here to the consideration of our readers.

TRANSPLANTATION OF SKIN FROM A CORPSE.

In the department for correspondence of this number of the REPORTER will be found a letter on Skin-Grafting, written by that well-known Surgeon, Dr. R. J. Levis. In this letter Dr. Levis expresses his disapproval of the plan of transplanting skin from a corpse

which was described, with favorable comment, in an editorial in the *REPORTER*, September 22. We have no hesitation in publishing Dr. Levis's criticism of the editorial referred to, because, while we regard honesty of purpose and fair intelligence as essential to the proper discharge of editorial duties, we do not think infallibility is indispensable in an editor. For this reason we shall not fear, if occasion arises, to acknowledge an error or be slow in retracting it. In the present case, it is quite possible that Dr. Levis is right, and that we are wrong; but we cannot see that he has demonstrated the soundness of his position or the error of ours. The only objection he raises, in his letter, against the use of any skin but that of the patient, for skin-grafting, is founded upon a fear which has never, so far as we know, been realized in practice, and which we believe never would be realized if proper precautions were observed in selecting the subject from which the grafts were to be obtained.

In discussing this matter, it must be borne in mind that we speak of exceptional cases. There are very few in which the patient cannot supply the needed grafts. In that of Dr. Bartens, which we referred to in our editorial of September 22, the surgeon may have been wrong in thinking the patient's skin unfit for the purpose. But, if this were the case, it would not affect the general question, and we still believe that, in a case in which skin grafting was necessary, and the grafts could not be obtained from the patient or a healthy donor, it would be good surgery to take them—with precautions similar to those necessary in selecting a living donor—from a corpse.

—Dr. E. Williams, of Cincinnati, Ohio, died in that city recently of an organic disease of the brain, from which he had been a sufferer for about two years.

—Dr. Albert E. Persons has been elected Professor of Materia Medica and Therapeutics in Niagara University, in place of Dr. F. R. Campbell, who recently died.

BOOK REVIEWS.

[Any book reviewed in these columns may be obtained upon receipt of price, from the office of the *REPORTER*.]

A MANUAL FOR HOSPITAL NURSES AND OTHERS ENGAGED IN ATTENDING ON THE SICK. BY EDWARD J. DOMVILLE, L.R.C.P., Lond., M.R.C.S., Eng., etc. Sixth edition. Small 8vo, pp. 100. Philadelphia: P. Blakiston, Son & Co., 1888. Price, 75 cents.

This is an admirable little book which might well be in the hands of every nurse, who is such by profession or under the stress of circumstances. Its instructions are perfectly clear and sensible, and with few exceptions are entirely trustworthy. As an exception we note the advice given in regard to the administration of enemata. The author says the tube of the syringe should be passed "through the anus for about four or five inches along the bowel in a direction first backward and then a little forward." In this there are two errors: four or five inches is a greater distance than is necessary; and the tube should be directed first forward, until the sphincter is passed, and then backward along the lower part of the curve of the coccyx and sacrum. We observe also certain Anglicisms in the book, which might need to be translated on this side of the Atlantic; but, on the whole, we have nothing but praise for this excellent manual.

PAMPHLET NOTICES.

[Any reader of the *REPORTER* who desires a copy of a pamphlet noticed in these columns will doubtless secure it by addressing the author with a request stating where the notice was seen and enclosing a postage-stamp.]

THE HISTORY OF ABDOMINAL SECTION IN ALBANY, WITH A REPORT OF SEVENTY-FIVE CASES. BY ALBERT VANDER VEER, M.D., Albany. From the *Transactions of the Medical Society of the State of New York*, 1888. 35 pages.

INTESTINAL OBSTRUCTION. WHEN SHOULD OPERATIVE MEASURES BE RESORTED TO IN INTESTINAL OBSTRUCTION? BY ALBERT VANDER VEER, M.D., Albany, N. Y. 4 pages.

—Fifty-one of the operations reported in Dr. Vander Veer's paper were done by him and twenty-four by other operators in Albany. The pamphlet contains an extremely interesting account of the progress of abdominal section in that part of the country from the time of its tentative and dangerous beginnings to the present period of confidence and safety. As a whole it is a valuable contribution to the history of this operation, and what has been accomplished in Albany, taken with what is happening every day in other parts of the United States, seems to justify the statement of Dr. Vander Veer: "As America is first in much that pertains to progress in science and art, I am convinced that she will soon lead in the practice of abdominal surgery."

—In the discussion on intestinal obstruction at the last meeting of the Medical Society of the State of New York, Dr. Vander Veer gave the opinions contained in the four pages of this leaflet as to the time when medical treatment should be abandoned and operative treatment be instituted. The gist of them is that delay must be limited, and that an operation should be undertaken before shock and collapse appear.

CORRESPONDENCE.

Status of American Medical Schools in Europe.

TO THE EDITOR.

Sir: Yours of the 18th ultimo was duly received, but owing to my being absent in the South looking after Yellow Fever, I could not reply sooner.

Practically, the diplomas of no medical colleges are recognized in Europe. If the question was divided it could be answered much easier. As, for instance, the recognition of diplomas for the purpose of practice, or as a qualification prior to receiving degrees from institutions. Degrees of Harvard, University of Pennsylvania and Bellevue, receive recognition to a certain extent in some countries, but not in all. By a recent Act of Parliament, the Medical Registration Law of Great Britain has been changed, allowing the registration of diplomas from other countries. I am not advised as yet whether the law has gone into effect, or what diplomas are recognized. Am sorry I do not have time to look up the latter question more closely at present. If you have the files of the London *Lancet* during the past year you can ascertain the details with regard to the Act.

Yours truly,

JOHN H. RAUCH,

Secretary Illinois State Board of Health.

Springfield, Illinois,

October 4, 1888.

[This letter is an authoritative reply to a question asked by one of our subscribers. EDITOR.]

Skin Grafting.

TO THE EDITOR.

Sir: To an observer of the literature of the progress of practical surgery it is curious to see how frequently old, discarded practices are revived and proclaimed as novelties. Your recent editorial on "Transplantation of Skin From a Corpse" is a marked illustration of such a useless resurrection of a long defunct subject.

Many years ago, soon after the success of the process of skin grafting was announced, I tried grafting from the integument of recently amputated limbs, and also from the cadaver. The success of these grafts was quite equal to that from the living subject. But I soon discontinued the practice of grafting from the cadaver and from amputated limbs, and from any source but the patients' own integument, and publicly deprecated and condemned it as subjecting

the patient to serious risks of specific infection.

You need not be troubled by the fear that the recent revival of this improper operation by a German surgeon "is likely to imperil the claim of our country for having originated it." I believe that I was the first who experimentally performed it, but would prefer to make the claim of having been the first to discard and condemn it.

I have successfully transplanted the skin of a rabbit to a raw surface that was denuded in a plastic operation on the face. In a noted case of cicatricial deformity of the face I successfully formed an entire upper eyelid from the integument of an ankylosed and useless finger that I had previously amputated from the patient's own hand.

I send to you herewith a copy of my pamphlet on skin grafting, which was originally published in the *Philadelphia Medical Times* about twelve years ago.

Yours truly,

RICHARD J. LEVIS, M.D.

Philadelphia,

September 25, 1888.

[See editorial columns.—ED. REPORTER.]

NEWS.

—Dr. Parvin has removed his residence to 1626 Spruce St., Philadelphia.

—Dr. Josef Fabricius, Professor of Ophthalmology in Buda-Pesth, died recently. He was fifty-three years old.

—Dr. Henry Rolando, formerly of Baltimore, Md., died October 4. He had been practising medicine in New York City for the past two years.

—Dr. Joseph Warrington died in Moorestown, N. J., October 12, at the age of 83 years. He was graduated from Jefferson Medical College in 1828.

—We regret to hear that Dr. Von Esmarch, the distinguished Professor of Surgery at the University of Kiel, is seriously ill in New York City.

—Dr. H. C. H. Herold, of Newark, N. J., has traced the cause of a number of cases of lead poisoning to soda water put up in bottles having a patent cap which contained lead.

—Dr. Paul Gibier, who was instructed by the French Government to visit the United States for the purpose of studying yellow fever, arrived in New York October 15. It is his intention to go to Jacksonville.